

## Shock Physics Papers 2015

- Aboshio, A., Green, S. and Ye, J.Q. 2015 "Structural performance of a woven-fabric reinforced composite as applied in construction of inflatable offshore fender barrier structures" *Int. J. Struct. Stability Dynamics* 15 1450036
- Abramson, E.H. 2015 "Speculation on measurements of the viscosity of shocked fluid water" *Shock Waves* 25 103-106
- Abrosimov, S.A., Bazhulin, A.P., Bolshakov, A.P., Konov, V.I., Krasiuk, I.K., Pashinin, P.P., Ralchenko, V.G., Semenov, A.Y., Sovyk, D.N., Stuchebryukhov, I.A., Fortov, V.E., Khishchenko, K.V. and Khomich, A.A. 2015 "Strength of synthetic diamonds under tensile stresses produced by picosecond laser action" *J. Appl. Mech. Tech. Phys.* 56 143-149
- Abrosimov, N.A. and Novoseltseva, N.A. 2015 "Identification of parameters of models of nonlinear deformation of isotropic and composite materials on the basis of calculations and experiments aimed at analyzing the dynamic behavior of cylindrical metal-plastic shells" *J. Appl. Mech. Tech. Phys.* 56 937-944
- Ackland, G.J. 2015 "Bearing down on hydrogen" *Science* 348 1429-1430
- Adamenko, N.A., Kazurov, A.V., Agafonova, G.V., Ryzhova, S.M. and Gerasimuk, A.E. 2015 "Structure and property formation of composite materials on the basis of polytetrafluoroethylene under the explosive processing" *Procedia Engng* 113 418-422
- Aganin, A.A. and Khalitova, T.F. 2015 "Deformation of a shock wave under strong compression of nonspherical bubbles" *High Temp.* 53 877-881
- Ageev, E.I., Veiko, V.P., Kudryashov, S.I., Petrov, A.A. and Samokhvalov, A.A. 2015 "Contact and non-contact ultrasonic diagnostics of shock waves driven by single-shot femtosecond laser ablation of titanium" *JETP Letts* 102 693-696
- Ahn, D.H., Kim, W., Kang, M., Park, L.J., Lee, S. and Kim, H.S. 2015 "Plastic deformation and microstructural evolution during the shock consolidation of ultrafine copper powders" *Mater. Sci. Engng A* 625 230-244
- Akiki, M. and Menon, S. 2015 "A model for hot spot formation in shocked energetic materials" *Combust. Flame* 162 1759-1771
- Akin, M.C. and Nguyen, J.H. 2015 "Practical uncertainty reduction and quantification in shock physics measurements" *Rev. Sci. Instrum.* 86 043903
- Aleyaasin, M., Harrigan, J.J. and Reid, S.R. 2015 "Air-blast response of cellular material with a face plate: An analytical-numerical approach" *Int. J. Mech. Sci.* 91 64-70
- Ali, S.J., Bolme, C.A., Collins, G.W. and Jeanloz, R. 2015 "Development of a broadband reflectivity diagnostic for laser driven shock compression experiments" *Rev. Sci. Instrum.* 86 043112

- Ali, F., Zaidi, A., Mujahid, A. and Zaid, M. 2015 "Comparative study of small scale soil barrier subjected to air blast load by using AUTODYN 2D and AUTODYN 3D" Mater. Sci. Forum 829 417-422
- Alqaity, A.B.S., Giri, B.R., Lo, J.M.H. and Farooq, A. 2015 "High-temperature experimental and theoretical study of the unimolecular dissociation of 1,3,5-trioxane" J. Phys. Chem. A 119 6594-6601
- Amadou, N., Brambrink, E., Vinci, T., Benuzzi-Mounaix, A., Huser, G., Brygoo, S., Morard, G., Guyot, F., de Resseguier, T., Mazavet, S., Miyanishi, K., Ozaki, N., Kodama, R., Henry, O., Raffestin, D., Boehly, T. and Koenig, M. 2015 "Probing iron at Super-Earth core conditions" Phys. Plasmas 22 022705
- An, Q., Cheng, T., Goddard, W.A. and Zybin, S.V. 2015 "Anisotropic impact sensitivity and shock induced plasticity of TKX-50 (dihydroxylammonium 5,5'-bis(tetrazole)-1,1'-diolate) single crystals: From large-scale molecular dynamics simulations" J. Phys. Chem. C 119 2196-2207
- An, Q. and Goddard III, W.A. 2015 "Atomistic origin of brittle failure of boron carbide from large-scale reactive dynamics simulations: Suggestions towards improved ductility" Phys. Rev. Letts 115 105501
- Anderson, E.K., Aslam, T.D. and Jackson, S.I. 2015 "Analysis of adjacent detonating explosive slabs", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 693-702, (Arlington, VA, Office of Naval Research)
- Anderson, E.K., Aslam, T.D. and Jackson, S.I. 2015 "The effect of transverse shock propagation on the shock-to-detonation transition process for an insensitive explosive" Proc. Combust. Inst. 35 2033-2040
- Anikeev, A.A., Bogdanova, Y.A. and Gubin, S.A. 2015 "The multicomponent self-consistent Ornstein-Zernike application for CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> shock Hugoniot simulation" J. Phys.: Conf. Ser. 653 012055
- Antillon, E. and Strachan, A. 2015 "Mesoscale simulations of shockwave energy dissipation via chemical reaction" J. Chem. Phys. 142 084108
- Antonov, O., Efimov, S., Gurovich, V.T., Bernshtam, V. and Krasik, Y.E. 2015 "Spectroscopy of a plasma formed in the vicinity of implosion of the shock wave generated by underwater electrical explosion of spherical wire array" Phys. Plasmas 22 053507
- Appel, K., Nakatsutsumi, M., Pelka, A., Priebe, G., Thorpe, I. and Tschentscher, T. 2015 "Studying planetary matter using intense X-ray pulses" Plasma Phys. Controlled Fusion 57 014003
- Aráoz, G. and Luccioni, B. 2015 "Modeling concrete-like materials under severe dynamic pressures" Int. J. Impact Engng 76 139-154

- Arinin, V.A., Burtsev, V.V., Mikhailov, A.L., Podurets, A.M., Rudnev, A.V., Syrunin, M.A., Tereshkina, I.A., Tkachenko, B.I., Tkachenko, M.I., Trunin, I.R., Tsoi, A.P. and Shiberin, I.V. 2015 "Experimental and computational study of quasispherical compression of a copper shell loaded by the detonation of a plastic explosive layer" *Combust. Explos. Shock Waves* 51 611-618
- Armstrong, M.R., Zaug, J.M., Grant, C.D., Crowhurst, J.C. and Bastea, S. 2015 "Ultrafast kinetics subsequent to shock in an unreacted, oxygen balanced mixture of nitromethane and hydrogen peroxide", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 311-318, (Arlington, VA, Office of Naval Research)
- Armstrong, R.W. and Li, Q.Z. 2015 "Dislocation mechanics of high-rate deformations" *Metall. Mater. Trans. A* 46 4438-4453
- Arnold, W., Rottenkolber, E. and Hartmann, T. 2015 "Analysis of shock and jet initiation tests of high explosives", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 163-170, (Arlington, VA, Office of Naval Research)
- Asay, B., Bdzil, J., Foster, J., Hernández, A., Lambert, D. and Stewart, D.S. 2015 "A multi-component detonation reaction zone model for blast explosives", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 445-455, (Arlington, VA, Office of Naval Research)
- Asgari, H., Odeshi, A.G., Szpunar, J.A., Zeng, L., Olsson, E. and Li, D.Y. 2015 "Effect of yttrium on the twinning and plastic deformation of AE magnesium alloy under ballistic impact" *Mater. Sci. Engng A* 623 10-21
- Ashitkov, S.I., Komarov, P.S., Struleva, E.V., Agranat, M.B. and Kanel, G.I. 2015 "Mechanical and optical properties of vanadium under shock picosecond loads" *JETP Letts* 101 276-281
- Ashitkov, S.I., Komarov, P.S., Struleva, E.V., Agranat, M.B., Kanel, G.I. and Khishchenko, K.V. 2015 "The behavior of tantalum under ultrashort loads induced by femtosecond laser" *J. Phys. Conf. Ser.* 653 012001
- Aslam, T.D., Gustavsen, R.L., Whitworth, N.J., Lacy, H.J., Lambourn, B.D., Handley, C.A., James, H.R. and Root, S. 2015 "Multi-shock and isentropic compression of the TATB-based explosive PBX 9502: Evaluation of reactive flow models", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1166-1175, (Arlington, VA, Office of Naval Research)
- Atzeni, S. 2015 "Light for controlled fusion energy: A perspective on laser-driven inertial fusion" *Europhys. Letts* 109 45001
- Atzeni, S., Marocchino, A. and Schiavi, A. 2015 "Shock ignition: A brief overview and progress in the design of robust targets" *Plasma Phys. Controlled Fusion* 57 014022

- Aune, V., Børvik, T. and Langseth, M. 2015 "Behaviour of plated structures subjected to blast loading" EPJ Web Conferences 94 01015
- Austin, R.A., Barton, N.R., Reaugh, J.E. and Fried, L.E. 2015 "Direct numerical simulation of shear localization and decomposition reactions in shock-loaded HMX crystal" J. Appl. Phys. 117 185902
- Austin, R.A., Barton, N.R., Reaugh, J.E. and Fried, L.E. 2015 "Grain scale simulations of pore collapse and chemical reaction in shock-loaded beta-HMX crystal", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 860-868, (Arlington, VA, Office of Naval Research)
- Azwin, I.N., Rosli, S., Mokhtar, S., Nordiana, M.M., Ragu, R.R. and Mark, J. 2015 "Delineating Bukit Bunuh impact crater boundary by geophysical and geotechnical investigation" AIP Conf. Proc. 1653 020018
- Badyukov, D.D., Raitala, J., Kostama, P. and Ignatiev, A.V. 2015 "Chelyabinsk meteorite: Shock metamorphism, black veins and impact melt dikes, and the Hugoniot" Petrology 23 103-115
- Baganina, A.E., Paleev, D.Y. and Beglyakov, V.Y. 2015 "Numerical study of shock wave interaction with protective stopping with regard to the type of its setting" Appl. Mech. Mater. 756 465-468
- Bagge-Hansen, M., Lauderbach, L., Hodgkin, R., Bastea, S., Fried, L., Jones, A., van Buuren, T., Hansen, D., Benterou, J., May, C., Graber, T., Jensen, B.J., Ilavsky, J. and Willey, T.M. 2015 "Measurement of carbon condensates using small-angle x-ray scattering during detonation of the high explosive hexanitrostilbene" J. Appl. Phys. 117 245902
- Bajgain, S., Ghosh, D.B. and Karki, B.B. 2015 "Structure and density of basaltic melts at mantle conditions from first-principles simulations" Nature Commun. 6 doi:10.1038/ncomms9578
- Bajic, Z., Bogdanov, J., Jeremic, R., Dimitrijevic, R., Velickovic, Z., Nestic, J. and Mladenovic, V. 2015 "The analysis of explosive charge density and scaled distance influence on shockwave overpressure using response surface methodology", in "Proc. 18th Seminar on New Trends in Research of Energetic Materials", ed. J. Pachman and J. Selesovsky, pp. 459-464, (Pardubice, Czech Republic, University of Pardubice)
- Barbarin, Y., Lefrançois, A., Zaniolo, G., Chuzeville, V., Jacquet, L., Magne, S., Luc, J. and Osmont, A. 2015 "Optimization of detonation velocity measurements using a chirped fiber Bragg grating" Proc. SPIE 9480 94800S
- Batani, D., Jakubowska, K., Benuzzi-Mounaix, A., Cavazzoni, C., Danson, C., Hall, T., Kimpel, M., Neely, D., Pasley, J. and Le Gloahec, M.R. 2015 "Refraction index of shock compressed water in the megabar pressure range" Europhys. Letts 112 36001, 49901

- Bates, J.W. 2015 "Theory of the corrugation instability of a piston-driven shock wave" *Phys. Rev. E* 91 013014
- Batsanov, S.S., Osavchuk, A.N., Naumov, S.P., Efimov, A.E., Mendis, B.G., Apperley, D.C. and Batsanov, A.S. 2015 "Synthesis and properties of hydrogen-free detonation diamond" *Propell. Explos. Pyrotech.* 40 39-45
- Bdzil, J.B., Short, M. and Quirk, J.J. 2015 "Oblique interactions of detonation with inert material confinement: The effect on the reaction zone", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 426-436, (Arlington, VA, Office of Naval Research)
- Bedarev, I.A. and Fedorov, A.V. 2015 "Computation of wave interference and relaxation of particles after passing of a shock wave" *J. Appl. Mech. Tech. Phys.* 56 750-760
- Belkheeva, R.K. 2015 "Equation of state for a highly porous material" *High Temp.* 53 348-357
- Belkov, S.A., Bondarenko, S.V., Vergunova, G.A., Garanin, S.G., Guskov, S.Y., Demchenko, N.N., Doskoch, I.Y., Kuchagov, P.A., Zmitrenko, N.V., Rozanov, V.B., Stepanov, R.V. and Yakhin, R.A. 2015 "Thermonuclear targets for direct-drive ignition by a megajoule laser pulse" *J. Exper. Theor. Phys.* 121 686-698
- Bellerive, A. and Radulescu, M. 2015 "A nonlinear evolution equation for pulsating detonations using Fickett's model with chain branching kinetics", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 456-465, (Arlington, VA, Office of Naval Research)
- Belov, N.N., Yugov, N.T., Kopanitsa, D.G., Kopanitsa, G.D., yugov, A.A. and Shashkov, V.V. 2015 "Mathematical modeling of steel fiber concrete under dynamic impact" *IOP Conf. Ser.: Mater. Sci. Engng* 71 012024
- Belov, E., Blachman, M., Britan, A., Sadot, O. and Ben-Dor, G. 2015 "Experimental investigation of the stress wave propagation inside a granular column impacted by a shock wave" *Shock Waves* 25 675-681
- Belov, S.V., Danileyko, Y.K., Yezhov, V.V., Nefedov, S.M., Osiko, V.V., Salyuk, V.A. and Sidorov, V.A. 2015 "Shockwave impact on pathological tissues: A new method of laser surgical treatment of dystrophic diseases of the vagina and vulva" *Dokl. Physics* 60 57-61
- Ben, C., He, Y., Pan, X.-C., Chen, H. and He, Y. 2015 "Compact pulse generators with soft ferromagnetic cores driven by gunpowder and explosive" *Rev. Sci. Instrum.* 86 124705
- Berger, S., Ben-Dor, G. and Sadot, O. 2015 "Numerical investigation of shock wave attenuation by geometrical means: Double barrier configuration" *Trans. ASME: J. Fluids Engng* 137 041203
- Berthon, C., Boutin, B. and Turpault, R. 2015 "Shock profiles for the shallow-water Exner models" *Adv. Appl. Math. Mech.* 7 267-294

- Betney, M.R., Tully, B., Hawker, N.A. and Ventikos, Y. 2015 "Computational modelling of the interaction of shock waves with multiple gas-filled bubbles in a liquid" *Phys. Fluids* 27 036101
- Betney, M.R., Anderson, P.A., Doyle, H., Tully, B., Hawker, N.A. and Ventikos, Y. 2015 "Numerical and experimental study of shock-driven cavity collapse" *J. Phys.: Conf. Ser.* 656 012011
- Biss, M.M. and McNesby, K.L. 2015 "Optically measuring the invisible: Explosive impulse", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 217-226, (Arlington, VA, Office of Naval Research)
- Bjelovuk, I., Jaramaz, S., Elek, P., Mickovic, D. and Kricak, L. 2015 "Modelling of characteristics of a crater emerged from a surface explosion on the soil" *Combust. Explos. Shock Waves* 51 395-400
- Blackwell, B.C., Deetjen, M.E., Gaudio, J.E. and Ewoldt, R.H. 2015 "Sticking and splashing in yield-stress fluid drop impacts on coated surfaces" *Phys. Fluids* 27 043101
- Blanco-Gutierrez, V., Cornu, L., Demourgues, A. and Gaudon, M. 2015 "CoMoO<sub>4</sub>/CuMo<sub>0.9</sub>W<sub>0.1</sub>O<sub>4</sub> mixture as an efficient piezochromic sensor to detect temperature/pressure shock parameters" *ACS Appl. Mater. Interfaces* 7 7112-7117
- Bobashev, S.V., Zhukov, B.G., Kurakin, R.O., Ponyaev, S.A., Reznikov, B.I. and Tverdokhlebov, K.V. 2015 "Intense shock waves and shock-compressed gas flows in the channels of rail accelerators" *Tech. Phys.* 60 40-47
- Bobashev, S.V., Reznikov, B.I., Zhukov, B.G., Kurakin, R.O. and Ponyaev, S.A. 2015 "The effect of erosion mass capture on plasma acceleration in electromagnetic railgun accelerators" *Tech. Phys. Letts* 41 644-647
- Bogdanova, Y.A., Anikeev, A.A., Gubin, S.A. and Victorov, S.B. 2015 "Limits of the applicability of the effective one-fluid model" *Russ. J. Phys. Chem. A* 89 741-746
- Bogdanova, Y.A., Gubin, S.A., Anikeev, A.A. and Victorov, S.B. 2015 "Dissociation of shock-compressed liquid hydrogen and deuterium" *Phys. Procedia* 72 329-332
- Bolis, C., Counilh, D. and Savale, B. 2015 "Using plastic instability to validate and test the strength law of a material under pressure" *EPJ Web Conferences* 94 04053
- Bonsmann, J. and Fourney, W.L. 2015 "The effect of polyurea mass ratio on the acceleration mitigation capabilities of dynamically loaded structures" *J. Dyn. Behav. Mater.* 1 28-42
- Bonsmann, J. and Fourney, W.L. 2015 "Mitigation of accelerations caused by blast loading utilizing polymeric-coated metallic thin-walled cylinders" *J. Dyn. Behav. Mater.* 1 259-274
- Borisenok, V.A. 2015 "Sonoluminescence: Experiments and models (Review)" *Acoust. Phys.* 61 308-332

- Bottke, W.F., Vokrouhlicky, D., Marchi, S., Swindle, T., Scott, E.R.D., Weirich, J.R. and Levison, H. 2015 "Dating the Moon-forming impact event with asteroidal meteorites " *Science* 348 321-323
- Bourne, N.K. 2015 "On strength at yield in condensed matter" *Metall. Mater. Trans. A* 46 4491-4497
- Bourne, N.K. and Dickson, P.M. 2015 "On ignition, burning and the transit to detonation", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 551-556, (Arlington, VA, Office of Naval Research)
- Bourne, N.K. 2015 "On the ultimate strength of condensed matter" *Metall. Mater. Trans. A* 46 4498-4505
- Bowden, M. 2015 "Short duration shock initiation of detonator explosives", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 584-593, (Arlington, VA, Office of Naval Research)
- Bozier, O., Desbiens, N., Dubois, V. and Sorin, R. 2015 "Detonation velocity of a TATB-based high-explosive as a function of density, temperature and curvature", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 477-484, (Arlington, VA, Office of Naval Research)
- Brailovsky, I. and Sivashinsky, G. 2015 "Precursors in two-phase detonation: Occurrence of a contact discontinuity" *Combust. Theory Model.* 19 833-855
- Braithwaite, C.H., Pawelko, R., Offret, J.-P., Pina, V., Church, P.D., Lewtas, I.M., Gould, P.J. and Jardine, A.P. 2015 "High speed thermography measurements on intermetallics", in "Proc. 18th Seminar on New Trends in Research of Energetic Materials", ed. J. Pachman and J. Selesovsky, pp. 93-100, (Pardubice, Czech Republic, University of Pardubice)
- Braithwaite, M. and Sharpe, G.J. 2015 "Reduced, chemistry implicit, equations of state for explosion and detonation products", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 869-877, (Arlington, VA, Office of Naval Research)
- Briggs, M.E., Hull, L., Moro, E., Younk, P. and Knierim, D. 2015 "Optical ranging to measure the material approach missed by optical velocimetry", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 319-326, (Arlington, VA, Office of Naval Research)
- Britun, V.F., Yarosh, V.V., Kurdyumov, A.V. and Danilenko, A.I. 2015 "Comparative study of phase transformations in carbon at different schemes of shock compression" *J. Superhard Mater.* 37 166-172
- Brodova, I.G., Petrova, A.N., Razorenov, S.V. and Shorokhov, E.V. 2015 "Resistance of submicrocrystalline aluminum alloys to high-rate deformation and fracture after dynamic channel angular pressing" *Phys. Metals Metallog.* 116 519-526

- Brouillette, M., Hébert, C., Atalla, N. and Doutres, O. 2015 "Using shock waves to improve the acoustic properties of closed-cell foams", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 783-788, (Berlin, Springer)
- Brown, K.E., Bolme, C.A., McGrane, S.D. and Moore, D.S. 2015 "Ultrafast shock-induced chemistry in carbon disulfide probed with dynamic ellipsometry and transient absorption spectroscopy" *J. Appl. Phys.* 117 085903
- Brown, K.E., McGrane, S.D., Bolme, C.A. and Moore, D.S. 2015 "Shock-induced reactions in nitromethane and carbon disulfide", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1304-1312, (Arlington, VA, Office of Naval Research)
- Brown, A.D., Pham, Q., Peralta, P., Luo, S.N., Patterson, B.M., Byler, D., Koskelo, A. and Xiao, X. 2015 "Correlations between spall damage mode preference and microstructure in shocked polycrystalline copper: A 3D X-ray tomography study" *J. Dyn. Behav. Mater.* 1 388-396
- Brown, A.D., Wayne, L., Pham, Q., Krishnan, K., Peralta, P., Luo, S.N., Patterson, B.M., Greenfield, S., Byler, D., McClellan, K.J., Koskelo, A., Dickerson, R. and Xiao, X.H. 2015 "Microstructural effects on damage nucleation in shock-loaded polycrystalline copper" *Metall. Mater. Trans. A* 46 4539-4547
- Brygoo, S., Millot, M., Loubeyre, P., Lazicki, A.E., Hamel, S., Qi, T., Celliers, P.M., Coppari, F., Eggert, J.H., Fratanduono, D.E., Hicks, D.G., Rygg, J.R., Smith, R.F., Swift, D.C., Collins, G.W. and Jeanloz, R. 2015 "Analysis of laser shock experiments on precompressed samples using a quartz reference and application to warm dense hydrogen and helium" *J. Appl. Phys.* 118 195901
- Bucio, L., Rosales, I., Thions, C., Soullard, J. and Orozco, E. 2015 "Phase transitions induced by shock compression on a gypsum mineral: X-ray and micro-Raman analysis" *High Press. Res.* 35 355-362
- Burns, M.J., Goff, M., Stennett, C. and Roberts, A. 2015 "Project Magnes: A permanent magnet array for the particle velocity gauge diagnostic", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 244-249, (Arlington, VA, Office of Naval Research)
- Buttigieg, G.A., Paine, G.H. and Hsiao, R.C. 2015 "Shock tube effect inside a pyrotechnic igniter" *Propell. Explos. Pyrotech.* 40 743-748
- Cai, Y., Wang, L., Wu, H.A., Zhu, M.H., Liu, C.L. and Luo, S.N. 2015 "Homogeneous crystal nucleation in liquid copper under quasi-isentropic compression" *Phys. Rev. B* 92 014108
- Campbell, M.F., Parise, T., Tulgestke, A.M., Spearrin, R.M., Davidson, D.F. and Hanson, R.K. 2015 "Strategies for obtaining long constant-pressure test times in shock tubes" *Shock Waves* 25 651-665
- Cannon, K.M. and Mustard, J.F. 2015 "Preserved glass-rich impactites on Mars" *Geology* 43 635-638



- Canup, R.M., Visccher, C., Salmon, J. and Fegley, B. 2015 "Lunar volatile depletion due to incomplete accretion within an impact-generated disk" *Nature Geoscience* 8 918-921
- Cao, L. and Koslowski, M. 2015 "Rate-limited plastic deformation in nanocrystalline nickel" *J. Appl. Phys.* 117 244301
- Casey, D.T., Milovich, J.L., Smalyuk, V.A., Clark, D.S., Robey, H.F., Pak, A., MacPhee, A.G., Baker, K.L., Weber, C.R., Ma, T., Park, H.-S., Döppner, T., Callahan, D.A., Haan, S.W., Patel, P.K., Peterson, J.L., Hoover, D., Nikroo, A., Yeaman, C.B., Merrill, F.E., Volegov, P.L., Fittinghoff, D.N., Grim, G.P., Edwards, M.J., Landen, O.L., Lafortune, K.N., MacGowan, B.J., Widmayer, C.C., Sayre, D.B., Hatarik, R., Bond, E.J., Nagel, S.R., Benedetti, L.R., Izumi, N., Khan, S., Bachmann, B., Spears, B.K., Cerjan, C.J., Johnson, M.G. and Frenje, J.A. 2015 "Improved performance of high areal density indirect drive implosions at the National Ignition Facility using a four-shock adiabat shaped drive" *Phys. Rev. Letts* 115 105001
- Casner, A., Jalinaud, T., Masse, L. and Galmiche, D. 2015 "Convergent ablation measurements of plastic ablaters in gas-filled rugby hohlraums on OMEGA" *Phys. Plasmas* 22 100702
- Castañeda, E., Rubio-Gonzalez, C., Chavez-Chavez, A. and Gomez-Rosas, G. 2015 "Laser shock processing with different conditions of treatment on duplex stainless steel" *J. Mater. Engng Perform.* 24 2521-2525
- Cawkwell, M.J., Niklasson, A.M.N. and Dattelbaum, D.M. 2015 "Extended Lagrangian Born-Oppenheimer molecular dynamics simulations of the shock-induced chemistry of phenylacetylene" *J. Chem. Phys.* 142 064512
- Cerreta, E.K., Gray III, G.T., Trujillo, C.P., Potocki, M.L., Vachhani, S., Martinez, D.T. and Lovato, M.L. 2015 "Strength and failure of a damaged material" *EPJ Web Conferences* 94 02015
- Chapman, D.J., Kunzel, M., Foglar, M., Pachman, J. and Proud, W.G. 2015 "Shock response of large aggregate concrete", in "Proc. 18th Seminar on New Trends in Research of Energetic Materials", ed. J. Pachman and J. Selesovsky, pp. 554-563, (Pardubice, Czech Republic, University of Pardubice)
- Chapman, D.A., Vorberger, J., Fletcher, L.B., Baggott, R.A., Divol, L., Doppner, T., Falcone, R.W., Glenzer, S.H., Gregori, G., Guymer, T.M., Kritcher, A.L., Landen, O.L., Ma, T., Pak, A.E. and Gericke, D.O. 2015 "Observation of finite-wavelength screening in high-energy-density matter" *Nature Commun.* 6 doi:10.1038/ncomms7839
- Chebotnyagin, L.M., Potapov, V.V. and Lopatin, V.V. 2015 "Patterns of alloy deformation by pulsed pressure" *Russ. Phys. J.* 58 212-220
- Chembarisova, R.G. 2015 "Elastoplastic behavior of copper upon high-strain-rate deformation" *Phys. Metals Metallog.* 116 592-600

- Chen, P., Liu, H., Zhang, S., Liu, H., Chen, A. and Guo, B. 2015 "Experimental studies on the deformation and rupture of thin metal plates subject to underwater shock wave loading" EPJ Web Conferences 94 01014
- Chen, M., Jiao, G.W., Deng, S.S. and Wang, J.H. 2015 "Numerical solutions of coupling hydraulic transient and axial structural vibration in liquid-filled pipelines by flux vector splitting scheme" Prog. Comput. Fluid Dynamics 15 25-31
- Chen, J.X., Wu, J.D., Li, P. and He, H.L. 2015 "Universal function of Grüneisen gamma and the complete equation of state (in Chinese)" Acta Phys. Sinica 64 086401
- Chen, Y., Chen, F., Du, Z.P., Wang, Y., Zhao, P.D. and Hua, H.X. 2015 "Protective effect of polymer coating on the circular steel plate response to near-field underwater explosions" Marine Struct. 40 247-266
- Chen, W.X., Fan, X., Guo, Z.K. and Wang, M.Y. 2015 "Dynamic responses of deep underground explosions based on improved Grigorian model" J. Central South Univ. 22 323-331
- Chen, S.J., Shen, R.Q., Wu, L.Z., Ye, Y.H. and Hu, Y. 2015 "Laser-driven performance of a multilayer flyer with carbon absorption layer" Proc. SPIE 9543 95430W
- Cheng, Y., Wang, M., Shi, C., Fan, H., Li, L. and Zheng, Q. 2015 "Constraining damage size and crater depth: A physical model of transient crater formation in rocky targets" Int. J. Impact Engng 81 50-60
- Cheng, B., Kwan, T.J.T., Wang, Y.M., Merrill, F.E., Cerjan, C.J. and Batha, S.H. 2015 "Analysis of NIF experiments with the minimal energy implosion model" Phys. Plasmas 22 082704
- Chennamsetty, A.R.K., LeBlanc, J., Abotula, S., Parrikar, P.N. and Shukla, A. 2015 "Dynamic response of Hastelloy X-plates under oblique shocks: Experimental and numerical studies" Int. J. Impact Engng 85 97-109
- Cherne, F.J., Hammerberg, J.E., Andrews, M.J., Karkhanis, V. and Ramaprabhu, P. 2015 "On shock driven jetting of liquid from non-sinusoidal surfaces into a vacuum" J. Appl. Phys. 118 185901
- Chernobryvko, M., Kruszka, L. and Avramov, K. 2015 "Deformation of compound shells under action of internal shock wave loading" EPJ Web Conferences 94 04046
- Chiquete, C., Jackson, S.I. and Short, M. 2015 "DSD calibration of PBX 9501 via slab geometry experiments", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 494-503, (Arlington, VA, Office of Naval Research)
- Choi, Y. and Lee, J. 2015 "Influence of explosive weight and steel thickness on behavior of steel plates" Int. J. Precision Engng Manufacturing 16 471-477

- Christensen, J.S., Gresshoff, M. and McMullen, K.J. 2015 "Probabilistic shock threshold development for LX-17", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 639-646, (Arlington, VA, Office of Naval Research)
- Chu, C.-H., Yen, Y.-S., Chen, P.-L. and Wen, C.-Y. 2015 "Repair of articular cartilage in rabbit osteochondral defects promoted by extracorporeal shock wave therapy" *Shock Waves* 25 205-214
- Church, P., Ingamells, V., Wood, A., Gould, P., Perry, J., Jardine, A. and Tyas, A. 2015 "Development and validation of model for sand" *EPJ Web Conferences* 94 04024
- Clayton, J.D. 2015 "Crystal thermoelasticity at extreme loading rates and pressures: Analysis of higher-order energy potentials" *Extreme Mech. Letts* 3 113-122
- Clayton, J.D. and Tonge, A.L. 2015 "A nonlinear anisotropic elastic-inelastic constitutive model for polycrystalline ceramics and minerals with application to boron carbide" *Int. J. Solids Structures* 64 191-207
- Close, S. and Heermann, D. 2015 "Hypervelocity impact events: Who cares?", in "Structural Health Monitoring 2015: System Reliability for Verification and Implementation", ed. F.K. Chang and F. Kopsaftopoulos, pp. 2895-2902, (Lancaster, PA, DesTech)
- Colin-Lalu, P., Recoules, V., Salin, G. and Huser, G. 2015 "Impact of oxygen on the 300 K isotherm of laser megajoule ablator using ab initio simulation" *Phys. Rev. E* 92 053104
- Cooper, M.A. and Sapp, A.W. 2015 "Sub-detonative response of a potassium chlorate-sugar mixture", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 514-523, (Arlington, VA, Office of Naval Research)
- Cotton, M., Chapman, D., Winter, R., Harris, E. and Eakins, D. 2015 "Tailored ramp wave generation in gas gun experiments" *EPJ Web Conferences* 94 01065
- Courtney, E., Courtney, A. and Courtney, M. 2015 "Device for underwater laboratory simulation of unconfined blast waves" *Rev. Sci. Instrum.* 86 066103
- Craxton, R.S., Anderson, K.S., Boehly, T.R., Goncharov, V.N., Harding, D.R., Knauer, J.P., McCrory, R.L., McKenty, P.W., Meyerhofer, D.D., Myatt, J.F., Schmitt, A.J., Sethian, J.D., Short, R.W., Skupsky, S., Theobald, W., Kruer, W.L., Tanaka, K., Betti, R., Collins, T.J.B., Delettrez, J.A., Hu, S.X., Marozas, J.A., Maximov, A.v., Michel, D.T., Radha, P.B., Regan, S.P., Sangster, T.C., Seka, W., Solodov, A.A., Soures, J.M., Stoeckl, C. and Zuegel, J.D. 2015 "Direct-drive inertial confinement fusion: A review" *Phys. Plasmas* 22 110501

- Croft, E.M., Chan, S.K., Kirby, I.J. and Nikofarakis, N. 2015 "Modelling multiphase detonation with streamline models", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1096-1106, (Arlington, VA, Office of Naval Research)
- Crouch, I.G., Kesharaju, M. and Nagarajah, R. 2015 "Characterisation, significance and detection of manufacturing defects in reaction sintered silicon carbide armour materials" *Ceram. Int.* 41 11581-11591
- Czászár, N.B.M., Angstman, N.B., Milz, S., Sprecher, C.M., Kobel, P., Farhat, M., Furia, J.P. and Schmitz, C. 2015 "Radial shock wave devices generate cavitation" *Plos One* 10 e0140541
- Dai, L.H., Huang, X. and Ling, Z. 2015 "Cavitation instability in bulk metallic glasses" *EPJ Web Conferences* 94 04013
- Damm, D.L., Wixom, R.R. and Yarrington, C.D. 2015 "Development of a grain-scale model for shock initiation of HNS", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 921-929, (Arlington, VA, Office of Naval Research)
- Darvizeh, R. and Davey, K. 2015 "A transport approach for analysis of shock waves in cellular materials" *Int. J. Impact Engng* 82 59-73
- Darvizeh, R. and Davey, K. 2015 "Non-physical finite element modelling of high speed normal crushing of cellular materials" *Int. J. Impact Engng* 82 130-143
- Dattelbaum, D.M., Gustavsen, R.L., Aslam, T., Sheffield, S.A. and Orler, E.B. 2015 "Influence of window characteristics on chemical reaction zone measurements in PBX 9502", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 396-406, (Arlington, VA, Office of Naval Research)
- Dattelbaum, D.M., Sheffield, S.A., Gustavsen, R.L., Gibson, L.L. and Johnson, C.E. 2015 "A comparison of the shock initiation sensitivities, and resulting reactive flow of several 2,4,6-trinitrotoluene-based explosives", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 740-749, (Arlington, VA, Office of Naval Research)
- de Frahan, M.T.H., Belof, J.L., Cavallo, R.M., Raevsky, V.A., Ignatova, O.N., Lebedev, A., Ancheta, D.S., El-Dasher, B.S., Florando, J.N., Gallegos, G.F., Johnsen, E. and LeBlanc, M.M. 2015 "Experimental and numerical investigations of beryllium strength models using the Rayleigh-Taylor instability" *J. Appl. Phys.* 117 225901
- Del Linz, P., Hooper, P.A., Arora, H., Smith, D., Pascoe, L., Cormie, D., Blackman, B.R.K. and Dear, J.P. 2015 "Reaction forces of laminated glass windows subject to blast loads" *Compos. Struct.* 131 193-206
- Demidov, V.A., Kazakov, S.A., Boriskin, A.S., Vlasov, Y.V., Yanenko, V.A., Nikolaev, N.I. and Volodchenkov, S.I. 2015 "Helical magneto-cumulative generator 280 mm in diameter" *J. Appl. Mech. Tech. Phys.* 56 30-35

- Deng, X.W., Zhou, W., Yuan, Q., Dai, W.J., Hu, D.X., Zhu, Q.H. and Jing, F. 2015 "Capsule illumination uniformity illuminated by direct laser-driven irradiation from several tens of directions (in Chinese)" *Acta Phys. Sinica* 64 195203
- Deutsch, A., Poelchau, M.H. and Kenkmann, T. 2015 "Impact metamorphism in terrestrial and experimental cratering events", in "Planetary Mineralogy", ed. M.R. Lee and H. Leroux, pp. 89-127, (London, The Mineralogical Society of Great Britain and Ireland)
- Di Stefano, C.A., Malamud, G., Kuranz, C.C., Klein, S.R., Stoeckl, C. and Drake, R.P. 2015 "Richtmyer-Meshkov evolution under steady shock conditions in the high-energy-density regime" *Appl. Phys. Letts* 106 114103
- Dixit, N., Hazeli, K. and Ramesh, K.T. 2015 "Twinning in magnesium under dynamic loading" *EPJ Web Conferences* 94 02018
- Dobromyslov, A.V., Taluts, N.I., Kozlov, E.A., Petrovtsev, A.V., Sapozhnikov, A.T. and Yusupov, D.T. 2015 "Deformation behavior of copper under conditions of loading by spherically converging shock waves: High-intensity regime of loading" *Phys. Metals Metallog.* 116 97-108
- Dorchies, F., Festa, F., Recoules, V., Peyrusse, O., Benuzzi-Mounaix, A., Brambrink, E., Levy, A., Ravasio, A., Koenig, M., Hall, T. and Mazevet, S. 2015 "X-ray absorption K edge as a diagnostic of the electronic temperature in warm dense aluminum" *Phys. Rev. B* 92 085117
- Dos Santos, E., Gattacceca, J., Rochette, P., Soorzelli, R.B. and Fillion, G. 2015 "Magnetic hysteresis properties and Fe-57 Mossbauer spectroscopy of iron and stony-iron meteorites: Implications for mineralogy and thermal history" *Phys. Earth Planet. Inter.* 242 50-54
- Drdlová, M., Cechmánek, R. and Ridky, R. 2015 "Blast impact behaviour of concrete with different fibre reinforcement" *EPJ Web Conferences* 94 05006
- Dremov, V.V., Rykounov, A.A., Sapozhnikov, F.A., Karavaev, A.V., Yakovlev, S.V., Ionov, G.V. and Ryzhkov, M.V. 2015 "Cold melting of beryllium: Atomistic view on Z-machine experiments" *J. Appl. Phys.* 118 035901
- Dremov, V.V., Ionov, G.V., Sapozhnikov, F.A., Smirnov, N.A., Karavaev, A.V., Vorobyova, M.A. and Ryzhkov, M.V. 2015 "MD modeling of screw dislocation influence upon initiation and mechanism of bcc-hcp polymorphous transition in iron" *EPJ Web Conferences* 94 04023
- Drennov, O.B. 2015 "Effect of an oblique shock wave on the interface between metals" *J. Appl. Mech. Tech. Phys.* 56 377-380
- Driver, K.P. and Militzer, B. 2015 "First-principles simulations and shock Hugoniot calculations of warm dense neon" *Phys. Rev. B* 91 045103
- Driver, K.P., Soubiran, F., Zhang, S. and Militzer, B. 2015 "First-principles equation of state and electronic properties of warm dense oxygen" *J. Chem. Phys.* 143 164507

- Duffy, E., He, X., Nesterenko, P.N. and Paull, B. 2015 "Hierarchical porous graphitic carbon monoliths with detonation nanodiamonds: Synthesis, characterisation and adsorptive properties" *J. Mater. Sci.* 50 6245-6259
- Durand, O. and Soulard, L. 2015 "Mass-velocity and size-velocity distributions of ejecta cloud from shock-loaded tin surface using atomistic simulations" *J. Appl. Phys.* 117 165903
- Durr, N. and Sauer, M. 2015 "Mesoscale modeling of quartzite and sandstone under shock loading: Influence of porosity and pressure-dependent quartz stiffness on macroscopic behavior" *Procedia Engng* 103 105-112
- Dwivedi, S.K., Pei, L. and Teeter, R. 2015 "Two-dimensional mesoscale simulations of shock response of dry sand" *J. Appl. Phys.* 117 085902
- Dyachkov, S.A., Parshikov, A.N. and Zhakhovsky, V.V. 2015 "Shock-produced ejecta from tin: Comparative study by molecular dynamics and smoothed particle hydrodynamics methods" *J. Phys.: Conf. Ser.* 653 012043
- Dyment, A. 2015 "Compressible liquid impact against a rigid body" *Trans. ASME: J. Fluids Engng* 137 031102
- Eason, R.M. and Sewell, T.D. 2015 "Molecular dynamics simulations of the collapse of a cylindrical pore in the energetic material  $\alpha$ -RDX" *J. Dyn. Behav. Mater.* 1 423-438
- Ebenhoch, S., Nau, S. and Haring, I. 2015 "Validated model-based simulation tool for design optimization of exploding foil initiators" *J. Defense Modeling Simulation* 12 189-207
- Ecault, R., Berthe, L., Touchard, F., Boustie, M., Lescoute, E., Sollier, A. and Voillaume, H. 2015 "Experimental and numerical investigations of shock and shear wave propagation induced by femtosecond laser irradiation in epoxy resins " *J. Phys. D: Appl. Phys.* 48 095501
- Eggert, J.H., Smith, R.F., Swift, D.C., Rudd, R.E., Fratanduono, D.E., Braun, D.G., Hawreliak, J.A., McNaney, J.M. and Collins, G.W. 2015 "Ramp compression of tantalum to 330 GPa" *High Press. Res.* 35 339-354
- Eliasson, B. 2015 "Instability of a thin conducting foil accelerated by a finite wavelength intense laser" *New J. Phys.* 17 033026
- Elsayed, F., Qi, H., Tong, L.L. and Helel, M. 2015 "Optimal configuration for stiffened plates under the effect of underwater explosion" *Mater. Sci. Forum* 813 161-168
- Emelyanov, A.M. 2015 "Study of near-critical states of liquid-vapor phase transition of metals by isentropic expansion method of shock-compressed porous sample" *High Temp. High Press.* 44 483-492

- Epstein, R., Goncharov, V.N., Marshall, F.J., Betti, R., Nora, R., Christopherson, A.R., Golovkin, I.E. and MacFarlane, J.J. 2015 "X-ray continuum as a measure of pressure and fuel-shell mix in compressed isobaric hydrogen implosion cores" *Phys. Plasmas* 22 022707
- Errandonea, D., Boehler, R. and Ross, M. 2015 "Comment on 'Molybdenum sound velocity and shear modulus softening under shock compression'" *Phys. Rev. B* 92 026101
- Extance, A. 2015 "Laser weapons get real" *Nature* 521 408-410
- Fan, Z.Q., Ma, H.H., Shen, Z.W. and Lin, M.J. 2015 "Application of PVDF for pressure measurements in an underwater explosion of aluminized explosives" *Combust. Explos. Shock Waves* 51 381-386
- Fan, C., Ma, B., Chen, D. and Wang, H. 2015 "The impact opening of spot welds by plane tensile pulses" *Exper. Mech.* 55 331-340
- Fan, Z., Ma, H., Shen, Z. and Lin, M. 2015 "Application of PVDF for pressure measurements in an underwater explosion of aluminized explosives" *Combust. Explos. Shock Waves* 51 381-386
- Fatyanov, O.V. and Asimow, P.D. 2015 "Absolute spectral radiance calibration of fiber-optic shock-temperature pyrometers using a coiled-coil irradiance standard lamp" *Rev. Sci. Instrum.* 86 101502
- Fay, S.D., Rigby, S.E., Tyas, A., Clarke, S.D., Reay, J.J., Warren, J.A. and Brown, R. 2015 "Displacement timer pins: An experimental method for measuring the dynamic deformation of explosively loaded plates" *Int. J. Impact Engng* 86 124-130
- Fedorov, A.V., Mikhailov, A.L., Finyushin, S.A., Kalashnikov, D.A., Chudakov, E.A., Butusov, E.I. and Gnutov, I.S. 2015 "Recording of particles velocity spectrum at the shock impact on different viscosity interface of liquids" *EPJ Web Conferences* 94 01025
- Fedorov, A.V. 2015 "Shock wave structure in a heterogeneous medium with two pressures" *Combust. Explos. Shock Waves* 51 678-687
- Fedorov, A.V. and Shulgin, A.V. 2015 "Effect of desorption nonequilibrium on structure of shock and rarefaction waves in coal bed" *J. Mining Sci.* 51 38-42
- Feldgun, V.R., Karinski, Y.S. and Yankelevsky, D.Z. 2015 "A two-phase model to simulate the 1D shock wave propagation in porous metal foam" *Int. J. Impact Engng* 82 113-129
- Fensin, S.J., Walker, E.K., Cerreta, E.K. and Gray III, G.T. 2015 "When do interfaces become important for failure?" *EPJ Web Conferences* 94 02010
- Fensin, S.J., Walker, E.K., Cerreta, E.K., Trujillo, C.P., Martinez, D.T. and Gray III, G.T. 2015 "Dynamic failure in two-phase materials" *J. Appl. Phys.* 118 235305
- Fenton, G., Grady, D. and Vogler, T. 2015 "Shock compression modeling of distended mixtures" *J. Dyn. Behav. Mater.* 1 103-113

- Fenton, G., Asay, B. and Dalton, D. 2015 "Impact compaction of a granular material" *Procedia Engng* 103 121-128
- Fick, J.P.M., Ramesh, K.T. and Swaminathan, P.K. 2015 "Modeling of ductile fragmentation that includes void interactions" *J. Mech. Phys. Solids* 85 54-73
- Field, J.E., Amer, E., Gren, P., Zafar, M.A. and Walley, S.M. 2015 "High-speed photographic study of laser damage and ablation" *Imaging Sci. J.* 63 119-136
- Fletcher, A., Close, S. and Mathias, D. 2015 "Simulating plasma production from hypervelocity impacts" *Phys. Plasmas* 22 093504
- Flynn, G.J., Durda, D.D., Patmore, E.B., Clayton, A.N., Jack, S.J., Lipman, M.D. and Strait, M.M. 2015 "Hypervelocity cratering and disruption of porous pumice targets: Implications for crater production, catastrophic disruption, and momentum transfer on porous asteroids" *Planet. Space Sci.* 107 64-76
- Folco, L., D'Orazio, M., Fazio, A., Cordier, C., Zeoli, A., van Ginneken, M. and El-Barkooky, A. 2015 "Microscopic impactor debris in the soil around Kamil crater (Egypt): Inventory, distribution, total mass, and implications for the impact scenario" *Meteor. Planet. Sci.* 50 382-400
- Fortov, V.E., Smirnov, V.P., Son, E.E., Bykov, Y.A., Grabovskii, E.V., Gribov, A.N., Oleinik, G.M. and Savelev, A.S. 2015 "Experimental modeling of lightning discharge into soil" *High Temp.* 53 775-778
- Frage, N., Dariel, M.P., Kalabukhov, S. and Zaretsky, E. 2015 "Impact response of TiB<sub>2</sub>-TiB composites" *Int. J. Impact Engng* 77 59-67
- Francois, E.G., Johnson, C., Whitley, V. and Lieber, M. 2015 "Diagnostic development on hemispherical and cylindrical testing", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 209-216, (Arlington, VA, Office of Naval Research)
- Frank, S., Lutz, J., Sankin, G.N., Szeri, A.J. and Zhong, P. 2015 "Bubble proliferation or dissolution of cavitation nuclei in the beam path of a shock-wave lithotripter" *Phys. Rev. Appl.* 3 034002
- Fratanduono, D.E., Smith, R.F., Braun, D.G., Patterson, J.R., Kraus, R.G., Perry, T.S., Arsenlis, A., Collins, G.W. and Eggert, J.H. 2015 "The effect of nearly steady shock waves in ramp compression experiments" *J. Appl. Phys.* 117 245903
- Frem, D. 2015 "A simple relationship for the calculation of the Gurney velocity of high explosives using the BKW thermochemical code" *J. Energ. Mater.* 33 140-144
- Friedlander, L.R., Glotch, T.D., Bish, D.L., Dyar, M.D., Sharp, T.G., Sklute, E.C. and Michalski, J.R. 2015 "Structural and spectroscopic changes to natural nontronite induced by experimental impacts between 10 and 40 GPa" *J. Geophys. Res.: Planets* 120 888-912
- Frostig, Y., Rodcheuy, N. and Kardomateas, G.A. 2015 "Blast response of sandwich plates with a compressible core: Extended high-order approach" *AIAA Journal* 53 1211-1225



- Fu, Y., Michopoulos, J. and Song, J.H. 2015 "Dynamics response of polyethylene polymer nanocomposites to shock wave loading" *J. Polym. Sci. B: Polym. Phys.* 53 1292-1302
- Fu, Q.B., Wang, Y., Wang, M., Qin, W.Z. and Guo, F. 2015 "Experimental study on velocity of flyer based on silicon" *Key Engng Mater.* 645 766-770
- Furnish, M.D., Roux, S. and Samuels, P. 2015 "Equation-of-state and shock homogeneity of IMX-101 and IMX-104", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1543-1551, (Arlington, VA, Office of Naval Research)
- Gaitanaros, S. and Kyriakides, S. 2015 "On the effect of relative density on the crushing and energy absorption of open-cell foams under impact" *Int. J. Impact Engng* 82 3-13
- Gamboa, E.J., Fletcher, L.B., Lee, H.J., Zastrau, U., Galtier, E., MacDonald, M.J., Gauthier, M., Vorberger, J., Gericke, D.O., Granados, E., Hastings, J.B. and Glenzer, S.H. 2015 "Single-shot measurements of plasmons in compressed diamond with an X-ray laser" *Phys. Plasmas* 22 056319
- Gao, Y.B., Zhang, W., Wei, G., Ni, Y.G., Huang, W., Cai, X.M. and Ye, N. 2015 "A new approach for Hugoniot equation of state of polycarbonate" *Measurement* 68 246-256
- Garanin, S.F., Kuznetsov, S.D. and Reinovsky, R.E. 2015 "Feasibility of warm dense matter generation using aluminum and copper foil electric explosion under the PHELIX facility current drive" *J. Appl. Mech. Tech. Phys.* 56 10-15
- Garkushin, G.V., Razorenov, S.V., Krasnoveikin, V.A., Kozulin, A.A. and Skripnyak, V.A. 2015 "Effect of structural factors on mechanical properties of the magnesium alloy Ma2-1 under quasi-static and high strain rate deformation conditions" *Phys. Solid State* 57 337-343
- Georgievskiy, P.Y., Levin, V.A. and Sutyrin, O.G. 2015 "Interaction of a shock with elliptical gas bubbles" *Shock Waves* 25 357-369
- Geretto, C., Yuen, S.C.K. and Nurick, G.N. 2015 "An experimental study of the effects of degrees of confinement on the response of square mild steel plates subjected to blast loading" *Int. J. Impact Engng* 79 32-44
- Gheribi, A.E., Lee, J.L.J. and Thibault, P. 2015 "A thermodynamic approach for identifying the conditions for gasless detonation" *Mater. Chem. Phys.* 149 27-33
- Ghoshal, R. and Mitra, N. 2015 "High-intensity air-explosion-induced shock loading of structures: Consideration of a real gas in modelling a nonlinear compressible medium" *Proc. R. Soc. A* 471 20140825
- Giere, R., Wimmenauer, W., Muller-Sigmund, H., Wirth, R., Lumpkin, G.R. and Smith, K.L. 2015 "Lightning-induced shock lamellae in quartz" *Amer. Mineralogist* 100 1645-1648

- Gildfind, D.E., James, C.M. and Morgan, R.G. 2015 "Free-piston driver performance characterisation using experimental shock speeds through helium" *Shock Waves* 25 169-176
- Gilev, S.D. and Prokopev, V.S. 2015 "Electrical resistance of high-pressure phases of tin under shock compression" *Combust. Explos. Shock Waves* 51 482-487
- Gish, L.A. and Wierzbicki, T. 2015 "Estimation of the underwater implosion pulse from cylindrical metal shells" *Int. J. Impact Engng* 77 166-175
- Gleason, A.E., Bolme, C.A., Lee, H.J., Nagler, B., Galtier, E., Milathianaki, D., Hawreliak, J., Kraus, R.G., Eggert, J.H. and Fratanduono, D.E. 2015 "Ultrafast visualization of crystallization and grain growth in shock-compressed SiO<sub>2</sub>" *Nature Commun.* 6 doi:10.1038/ncomms9191, 10.1038/ncomms9709
- Gnanadhas, D.P., Janaedhanraj, S., Chakravorty, D. and Gopalan, J. 2015 "Biological effects of shock waves on infection", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 877-882, (Berlin, Springer)
- Godibadze, B.A., Chagelishvili, E.S., Peikrishvili, A.B., Tsiklauri, M.V. and Dgebuadze, A.A. 2015 "Explosive fabrication of copper-carbon and copper-tungsten materials" *Procedia Earth Planet. Sci.* 15 448-453
- Goel, A., Tarantino, P.M., Lauben, D.S. and Close, S. 2015 "Design and testing of miniaturized plasma sensor for measuring hypervelocity impact plasmas" *Rev. Sci. Instrum.* 86 043304
- Goel, M.D., Altenhofer, P., Matsagar, V.A., Gupta, A.K., Mundt, C. and Marburg, S. 2015 "Interaction of a shock wave with a closed cell aluminum metal foam" *Combust. Explos. Shock Waves* 51 373-380
- Goel, A., Lee, N. and Close, S. 2015 "Estimation of hypervelocity impact parameters from measurements of optical flash" *Int. J. Impact Engng* 84 54-63
- Goff, M., Hazell, P.J., Appleby-Thomas, G.J., Wood, D.C., Stennett, C. and Taylor, P. 2015 "Gas gun ramp loading of Kel-F 81 targets using a ceramic graded areal density flyer system" *Int. J. Impact Engng* 80 152-161
- Goff, M., Burns, M.J., Stennett, C., Roberts, A., Taylor, P. and Appleby-Thomas, G.J. 2015 "Ramp loading of Kel-F 81 and EDC 37 observed with embedded particle velocity gauges", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 611-619, (Arlington, VA, Office of Naval Research)
- Golyshev, A.A., Kim, V.V., Emelyanov, A.n. and Molodets, A.M. 2015 "Model for calculating shock-compression parameters of a platelet gradient mixture" *J. Appl. Mech. Tech. Phys.* 56 618-625
- Gonthier, K.A. and Chakravarthy, S. 2015 "Shock-induced ignition of porous HMX: Computational examination of hot-spot formation rates", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1285-1294, (Arlington, VA, Office of Naval Research)

- Gorbachev, K.V., Mikhaylov, V.M., Nesterov, E.V., Stroganov, V.A. and Chernykh, E.V. 2015 "Conversion of high explosive chemical energy into energy of powerful nanosecond high-current pulses" *J. Appl. Mech. Tech. Phys.* 56 36-43
- Gorman, M.G., Briggs, R., McBride, E.E., Higginbotham, A., Arnold, B., Eggert, J.H., Fratanduono, D.E., Galtier, E., Lazicki, A.E., Lee, H.J., Liermann, H.P., Nagler, B., Rothkirch, A., Smith, R.F., Swift, D.C., Collins, G.W., Wark, J.S. and McMahon, M.I. 2015 "Direct observation of melting in shock-compressed bismuth with femtosecond X-ray diffraction" *Phys. Rev. Letts* 115 095701
- Gornostaeva, T.A., Mokhov, A.V., Kartashov, P.M. and Bogatikov, O.A. 2015 "Condensate constituent in impact glasses of the Zhamanshin crater" *Dokl. Earth Sci.* 464 924-927
- Gottfried, J.L. 2015 "Laser-induced shock chemistry of energetic materials", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 292-303, (Arlington, VA, Office of Naval Research)
- Gottfried, J.L. 2015 "Laboratory-scale method for estimating explosive performance from laser-induced shock waves" *Propell. Explos. Pyrotech.* 40 674-681
- Gowda, J.C. and Shivakumar, K.N. 2015 "Polymeric flexible syntactic foam composite for shock mitigation", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 769-774, (Berlin, Springer)
- Grady, D.E. 2015 "Hugoniot equation of state and dynamic strength of boron carbide" *J. Appl. Phys.* 117 165904
- Grady, D.E. 2015 "Unifying role of dissipative action in the dynamic failure of solids" *J. Appl. Phys.* 117 165905
- Grady, D. 2015 "The unifying role of dissipative action in the dynamic failure of solids" *Procedia Engng* 103 143-150
- Gray III, G.T., Livescu, V., Rigg, P.A., Trujillo, C.P., Cady, C.M., Chen, S.R., Carpenter, J.S., Lienert, T.J. and Fensin, S. 2015 "Structure/property (constitutive and dynamic strength/damage) characterization of additively manufactured 316L SS" *EPJ Web Conferences* 94 02006
- Greenberg, B.A., Elkina, O.A., Patselov, A.M., Plotnikov, A.V., Ivanov, M.A. and Besshaposnikov, Y.P. 2015 "Risk zones for coke drum shell produced by explosive welding" *J. Mater. Process. Technol.* 215 79-86
- Greenberg, B.A., Ivanov, M.A., Inozemtsev, A.V., Patselov, A.M., Pushkin, M.S. and Vlasova, A.M. 2015 "Microheterogeneous structure of local melted zones in the process of explosive welding" *Metall. Mater. Trans. A* 46 3569-3580
- Greenberg, B.A., Ivanov, M.A., Inozemtsev, A.V., Kuzmin, S.V., Lysak, V.I., Vlasova, A.M. and Pushkin, M.S. 2015 "Interface relief upon explosion welding: Splashes and waves" *Phys. Metals Metallog.* 116 367-377

- Gresshoff, M., Oldaker, M., Hoffman, D.M., McMullen, K.J., Overturf III, G.E., Pagoria, P. and Zhang, M.X. 2015 "A new light enhancement coating formulation to be used for TATB detonation front detection", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 327-332, (Arlington, VA, Office of Naval Research)
- Grier, B., Figliola, R., Alyanak, E. and Camberos, J. 2015 "Discontinuous solutions using the method of manufactured solutions on finite volume solvers" *AIAA Journal* 53 2369-2378
- Grigoriev, A.N., Karnaukhov, E.I., Pavlenko, A.V. and Sedoi, V.S. 2015 "Influence of the foil material on the uniformity of the mechanical pressure pulse in electrical explosion of metal foils" *J. Appl. Mech. Tech. Phys.* 56 136-142
- Grinfeld, M. and Grinfeld, P. 2015 "The Hugoniot relationships for nonlinear elastic substances", in "Dynamic Behavior of Materials", ed. B. Song, D. Casem and J. Kimberley, pp. 99-105, (Berlin, Springer)
- Grinfeld, M. and Grinfeld, P. 2015 "Dynamics and shock waves in media with second order phase transformations", in "Dynamic Behavior of Materials", ed. B. Song, D. Casem and J. Kimberley, pp. 113-120, (Berlin, Springer)
- Grujicic, M., Yavari, R., Snipes, J.S. and Ramaswami, S. 2015 "A zeolite absorbent/nano-fluidics protection-based blast- and ballistic-impact-mitigation system" *J. Mater. Sci.* 50 2019-2037
- Grujicic, M., Yavari, R., Snipes, J.S., Ramaswami, S., Jiao, T. and Clifton, R.J. 2015 "Experimental and computational study of the shearing resistance of polyurea at high pressures and high strain rates" *J. Mater. Engng Perform.* 24 778-798
- Grujicic, M., Snipes, J.S., Ramaswami, S., Yavari, R. and Barsoum, R.S. 2015 "All-atom molecular level analysis of the ballistic-impact-induced densification and devitrification of fused silica" *J. Mater. Engng Perform.* 24 2970-2983
- Grujicic, M., Avuthu, V., Snipes, J.S., Ramaswami, S. and Galgalikar, R. 2015 "The effect of high-pressure devitrification and densification on ballistic-penetration resistance of fused silica" *J. Mater. Engng Perform.* 24 4890-4907
- Gu, Z., Zhou, Z., Zhang, C., Tang, X., Tong, Y., Zhao, J. and Sun, C. 2015 "Experiments of cylindrical isentropic compression by ultrahigh magnetic field" *EPJ Web Conferences* 94 01023
- Gubin, S.A., Sumsikoi, S.I. and Victorov, S.B. 2015 "Double-front detonation waves" *Phys. Procedia* 72 324-328
- Gubin, S.A., Maklashova, I.V., Selezenev, A.A. and Kozlova, S.A. 2015 "Molecular-dynamics study melting aluminum at high pressures" *Phys. Procedia* 72 338-341
- Gubskii, K.L., Koshkin, D.S., Antonov, A.S., Mikhailuk, A.V., Pirog, V.A. and Kuznetsov, A.P. 2015 "Shock wave velocity measuring system based on vernier VISAR-type interferometers" *J. Phys.: Conf. Ser.* 653 012040

- Gunkelmann, N., Tramontina, D.R., Bringa, E.M. and Urbassek, H.M. 2015 "Morphological changes in polycrystalline iron after compression and release" J. Appl. Phys. 117 085901
- Gunkelmann, N., Bringa, E.M. and Urbassek, H.M. 2015 "Influence of phase transition on shock-induced spallation in nanocrystalline iron" J. Appl. Phys. 118 185902
- Guo, L.H. and Yin, G. 2015 "The Riemann problem with delta initial data for the one-dimensional transport equations" Bull. Malaysian Math. Sci. Soc. 38 219-230
- Guo, F., Zhang, H., Hu, H.Q., Cheng, X.L. and Zhang, L.Y. 2015 "Hugoniot curve calculation of nitromethane decomposition mixtures: A reactive force field molecular dynamics approach" Chinese Phys. B 24 118201
- Guo, Y., Han, Y. and Wang, L. 2015 "Method of shock wave overpressure reconstruction" Combust. Explos. Shock Waves 51 597-602
- Gupta, S., LeBlanc, J.M. and Shukla, A. 2015 "Sympathetic underwater implosion in a confining environment" Extreme Mech. Letts 3 123-129
- Gupta, S., LeBlanc, J.M. and Shukla, A. 2015 "Implosion of longitudinally off-centered cylindrical volumes in a confining environment" Trans. ASME: J. Appl. Mech. 82 051002
- Gurrutxaga-Lerma, B., Balint, D.S., Dini, D., Eakins, D.E. and Sutton, A.P. 2015 "Attenuation of the dynamic yield point on shocked aluminum using elastodynamic simulations of dislocation dynamics" Phys. Rev. Letts 114 174301
- Gurrutxaga-Lerma, B., Balint, D.S., Dini, D., Eakins, D.E. and Sutton, A.P. 2015 "The role of homogeneous nucleation in planar dynamic discrete dislocation plasticity" Trans. ASME: J. Appl. Mech. 82 071008
- Gurrutxaga-Lerma, B., Balint, D.S., Dini, D. and Sutton, A.P. 2015 "The mechanisms governing the activation of dislocation sources in aluminum at different strain rates" J. Mech. Phys. Solids 84 273-292
- Guskov, S.Y., Nicolai, P., Ribeyre, X. and Tikhonchuk, V.T. 2015 "Heating a plasma by a broadband stream of fast electrons: Fast ignition, shock ignition, and Gbar shock wave applications" J. Exper. Theor. Phys. 121 529-540
- Gustavsen, R.L., Dattelbaum, D.M., James, H.R., Bartram, B.D. and Pacheco, A.H. 2015 "Initiation of Composition B-3 by impact of flat-nosed rods", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 836-845, (Arlington, VA, Office of Naval Research)
- Gutkin, M.Y. and Rzhavtsev, E.A. 2015 "Dynamics of formation of low-angle tilt boundaries in metals and alloys at high loading rates" Phys. Solid State 57 2447-2457
- Habib, M.A., Keno, H., Uchida, R., Mori, A. and Hokamoto, K. 2015 "Cladding of titanium and magnesium alloy plates using energy-controlled underwater three layer explosive welding" J. Mater. Process. Technol. 217 310-316

- Hahn, E.N. and Meyers, M.A. 2015 "Grain-size dependent mechanical behavior of nanocrystalline metals" *Mater. Sci. Engng A* 646 101-134
- Haris, A., Lee, H.P., Tay, T.E. and Tan, V.B.C. 2015 "Shear thickening fluid impregnated ballistic fabric composites for shock wave mitigation" *Int. J. Impact Engng* 80 143-151
- Harmand, M., Ravasio, A., Mazevet, S., Bouchet, J., Denoëud, A., Dorchie, F., Feng, Y., Fourment, C., Galtier, E., Gaudin, J., Guyot, F., Kodama, R., Koenig, M., Lee, H.J., Miyanishi, K., Morard, G., Musella, R., Nagler, B., Nakatsutsumi, M., Ozaki, N., Recoules, V., Toleikis, S., Vinci, T., Zastrau, U., Zhu, D. and Benuzzi-Mounaix, A. 2015 "X-ray absorption spectroscopy of iron at multimegabar pressures in laser shock experiments" *Phys. Rev. B* 92 024108
- Haulenbeek, K.K. and Corona, E. 2015 "Structural damage equivalence of explosive materials based on the response of thin circular plates subjected to blast loading", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 341-347, (Arlington, VA, Office of Naval Research)
- Hawass, A., Mostafa, H. and Elbeih, A. 2015 "Multilayer protective armour for underwater shock wave mitigation" *Defence Technol.* 11 338-343
- He, Z.H., Chen, J., Ji, G.F., Liu, L.M., Zhu, W.J. and Wu, Q. 2015 "Dynamic responses and initial decomposition under shock loading: A DFTB calculation combined with MSST method for beta-HMX with molecular vacancy" *J. Phys. Chem. B* 119 10673-10681
- Helfrich, J., Kraus, D., Ortner, A., Frydrych, S., Schaumann, G., Hartley, N.J., Gregori, G., Kettle, B., Riley, D., Carroll, D.C., Notley, M.M., Spindloe, C. and Roth, M. 2015 "Investigation of the solid-liquid phase transition of carbon at 150 GPa with spectrally resolved X-ray scattering" *High Energy Density Phys.* 14 38-43
- Hendijanifard, M. and Willis, D.A. 2015 "Validity of the Taylor-Sedov theory for studying laser-induced phase explosion and shock waves" *J. Nanosci. Nanotechnol.* 15 3249-3253
- Herbold, E.B., Owen, J.M., Swift, D.C. and Miller, P.L. 2015 "Simulations of defense strategies for Bennu: Material characterization and impulse delivery" *Procedia Engng* 103 173-180
- Higgins, D.L., Pang, B., Millett, J.C.F., Whiteman, G., Jones, I.P. and Chiu, Y.L. 2015 "Contrasting the microstructural and mechanical response to shock loading of cold-rolled copper with annealed copper" *Metall. Mater. Trans. A* 46 4518-4521
- Hill, L.G. and Aslam, T.D. 2015 "The detonation confinement effect: Theory, observations, and experiments", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 504-513, (Arlington, VA, Office of Naval Research)
- Hill, L.G. 2015 "Is the detonation 'dead zone' really dead?" *Proc. Combust. Inst.* 35 2041-2049

- Hobbs, M.L., Brundage, A.L. and Yarrington, C.D. 2015 "JCZS2i: An improved JCZ database for EOS calculations at high temperature and pressure", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 804-813, (Arlington, VA, Office of Naval Research)
- Hofmann, A., Ritz, U., Rompe, J.-D., Tresch, A. and Rommens, P.M. 2015 "The effect of shock wave therapy on gene expression in human osteoblasts isolated from hypertrophic fracture non-unions" *Shock Waves* 25 91-102
- Hogan, J.D., Farbaniec, L., Shaeffer, M. and Ramesh, K.T. 2015 "The effects of microstructure and confinement on the compressive fragmentation of an advanced ceramic" *J. Amer. Ceram. Soc.* 98 902-912
- Honda, S., Sakamoto, H., Ohbuchi, Y., Kawabe, S., Itoh, S. and Nakamura, Y. 2015 "High speed fracture phenomena by underwater shock wave of explosive energy and large current pulse in glass container" *Key Engng Mater.* 627 253-256
- Hoo Fatt, M.S. and Sirivolu, D. 2015 "Blast response of double curvature, composite sandwich shallow shells" *Engng Struct.* 100 696-706
- Hooks, D.E., Ramos, K.J., Bolme, C.A. and Cawkwell, M.J. 2015 "Elasticity of crystalline molecular explosives" *Propell. Explos. Pyrotech.* 40 333-350
- Hörz, F., Archer, P.D., Niles, P.B., Zolensky, M.E. and Evans, M. 2015 "Devolatilization or melting of carbonates at Meteor Crater, AZ?" *Meteor. Planet. Sci.* 50 1050-1070
- Hosseini, S.H.R., Nejad, S.M. and Akiyama, H. 2015 "Shock waves for possible application in regenerative medicine", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 893-894, (Berlin, Springer)
- Howard, M., Luttmann, A., Machorro, E., Kelly, R., Blair, J., Matthes, M., Pena, M., Hanache, M., O'Toole, B., Sipe, N., Crawford, K., Meehan, B.Y. and Hixson, R. 2015 "Benchmarking surface position from laser velocimetry with high-speed video in impact experiments" *Procedia Engng* 103 221-229
- Hu, S.X., Collins, L.A., Goncharov, V.N., Kress, J.D., McCrory, R.L. and Skupsky, S. 2015 "First-principles equation of state of polystyrene and its effect on inertial confinement fusion implosions" *Phys. Rev. E* 92 043104
- Huang, F., Liang, P., Yang, X., Cai, H., Wu, J., Xu, N., Ying, Z. and Sun, J. 2015 "Confinement effects of shock waves on laser-induced plasma from a graphite target" *Phys. Plasmas* 22 063509
- Huang, J.W., Liu, Q.C., Zeng, X.L., Zhou, X.M. and Luo, S.N. 2015 "Refractive indices of  $Gd_3Ga_5O_{12}$  single crystals under shock compression to 100–290 GPa" *J. Appl. Phys.* 118 205902
- Huang, J.Y., Li, Y., Liu, Q.C., Zhou, X.M., Liu, L.W., Liu, C.L., Zhu, M.H. and Luo, S.N. 2015 "Origin of compression-induced failure in brittle solids under shock loading" *Phys. Rev. B* 92 144101

- Hudson, R.J., Moniruzzaman, M. and Gill, P.P. 2015 "Investigation of crystal morphology and shock sensitivity of RDX suspension by rheology" *Propell. Explos. Pyrotech.* 40 233-237
- Huneault, J., Loiseau, J., Hildebrand, M. and Higgins, A. 2015 "Down-bore velocimetry of an explosively driven light-gas gun" *Procedia Engng* 103 230-236
- Hunter, A. and Preston, D.L. 2015 "Analytic model of the remobilization of pinned glide dislocations from quasistatic to high strain rates" *Int. J. Plast.* 70 1-29
- Huser, G., Recoules, V., Ozaki, N., Sano, T., Sakawa, Y., Salin, G., Albertazzi, B., Miyanishi, K. and Kodama, R. 2015 "Experimental and ab initio investigations of microscopic properties of laser-shocked germanium-doped ablator" *Phys. Rev. E* 92 063108
- Hussain, T., Liu, Y., Huang, F.L. and Duan, Z.P. 2015 "Modeling and simulation of preshock desensitization in heterogeneous explosives using a mesoscopic reaction rate model" *Simulation* 91 980-988
- Indeitsev, D.A., Meshcheryakov, Y.I., Kuchmin, A.Y. and Vavilov, D.S. 2015 "Multi-scale model of steady-wave shock in medium with relaxation" *Acta Mech.* 226 917-920
- Inogamov, N.A., Zhakhovskii, V.V. and Khokhlov, V.A. 2015 "Jet formation in spallation of metal film from substrate under action of femtosecond laser pulse" *J. Exper. Theor. Phys.* 120 15-48
- Iskander, M., Omidvar, M. and Bless, S. 2015 "Behavior of granular media under high strain-rate loading", in "Rapid Penetration into Granular Media: Visualizing the Fundamental Physics of Rapid Earth Penetration", ed. M. Iskander, S. Bless and M. Omidvar, pp. 11-63, (Amsterdam, Elsevier)
- Itou, S. 2015 "Dynamic stress intensity factors around three parallel cracks in an infinite medium during a passage of impact normal stresses" *Acta Mech.* 226 2407-2420
- Jackson, S.I. 2015 "An analytic method for two-dimensional wall motion and product isentrope from the detonation cylinder test" *Proc. Combust. Inst.* 35 1997-2004
- Jackson, T.L., Buckmaster, J.D., Zhang, J. and Anderson, M.J. 2015 "Pore collapse in an energetic material from the micro-scale to the macro-scale" *Combust. Theory Model.* 19 347-381
- James, H.R. 2015 "Comparison of shock initiation threshold criteria for projectiles with flat impact surfaces", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 629-638, (Arlington, VA, Office of Naval Research)
- Jang, J.K. and Lee, J.R. 2015 "Non-destructive visualization of linear explosive-induced Pyroshock using phase arrayed laser-induced shock in a space launcher composite" *J. Phys.: Conf. Ser.* 628 012104



- Jayaram, V., Rao, K.s., Thanganayaki, N., Kumara, H.K.T. and Reddy, K.P.J. 2015 "Response of polyurethane to shock waves: An experimental investigation", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 775-780, (Berlin, Springer)
- Jenkins, C.M., Ripley, R.C. and Cloney, C. 2015 "Hypervelocity pressure fields driven by cylindrical converging shock used for accelerating dense metal particles" *Procedia Engng* 103 265-272
- Jensen, B.J., Cherne, F.J., Prime, M.B., Fezzaa, K., Iverson, A.J., Carlson, C.A., Yeager, J.D., Ramos, K.J., Hooks, D.E., Cooley, J.C. and Dimonte, G. 2015 "Jet formation in cerium metal to examine material strength" *J. Appl. Phys.* 118 195903
- Jia, G., Huang, X.G., Xie, Z.Y., Ye, J.J., Fang, Z.H., Shu, H., Meng, X.F., Zhou, H.Z. and Fu, S.Z. 2015 "Experimental measurement of liquid deuterium equation of state data (in Chinese)" *Acta Phys. Sinica* 64 166401
- Jian, W.R., Yao, X.H., Wang, L., Tang, X.C. and Luo, S.N. 2015 "Short- and medium-range orders in  $\text{Cu}_{46}\text{Zr}_{54}$  metallic glasses under shock compression" *J. Appl. Phys.* 118 015901
- Jian, W.R., Li, B., Wang, L., Yao, X.H. and Luo, S.N. 2015 "Shock response of open-cell nanoporous copper foams: Effects of porosity and specific surface area" *J. Appl. Phys.* 118 165902
- Jiang, M.Q., Huang, B.M., Jiang, Z.J., Lu, C. and Dai, L.H. 2015 "Joining of bulk metallic glass to brass by thick-walled cylinder explosion" *Scripta mater.* 97 17-20
- Jiang, Z.-X., Peng, H., Xing, M.-Z., Shen, H.-T., He, H.-L. and Wang, Y.-G. 2015 "Effects of grain size on the spallation behavior of pure copper under plate-impact loading" *EPJ Web Conferences* 94 02003
- Jiang, T.L., Yu, Y., Huan, Q., Li, Y.Q. and He, H.L. 2015 "Shock plasticity design of brittle material (in Chinese)" *Acta Phys. Sinica* 64 188301
- Jilek, B.A., Kohl, I.T., Farrow, D.A., Urayama, J., Knepper, R., Radtke, G., Kearney, S.P., Armstrong, M.R., Crowhurst, J.C., Lewicki, J., Coleman, K.M. and Zaug, J.M. 2015 "Unreacted equations of state of Sylgard and HNAB determined by ultrafast time domain interferometry", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 437-444, (Arlington, VA, Office of Naval Research)
- Jinmin, M., Saad, R., Saidin, M. and Ismail, N.A. 2015 "Chronicle of Bukit Bunuh for possible complex impact crater by 2D resistivity imaging (2-DERI) with geotechnical borehole records" *AIP Conf. Proc.* 1653 020049
- Johns, R.V. and Clubley, S.K. 2015 "Post-fracture response of blast-loaded monolithic glass" *Proc. Inst. Civil Engrs: Engng Struct. Buildings* 168 469-478
- Johnson, B.C., Minton, D.A., Melosh, H.J. and Zuber, M.T. 2015 "Impact jetting as the origin of chondrules" *Nature* 517 339-341

- Johnson, C.E., Hoffman, J.M., Lusk, B.T. and Lee, N. 2015 "Investigating colliding shock wave and detonation wave interactions and their influence on fragmentation", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 665-674, (Arlington, VA, Office of Naval Research)
- Johnson, B.M. 2015 "Buoyancy instability of homologous implosions" *J. Fluid Mech.* 774 R4
- Johnson, G.R., Beissel, S.R. and Gerlach, C.A. 2015 "A 3D combined particle-element method for intense impulsive loading computations involving severe distortions" *Int. J. Impact Engng* 84 171-180
- Jorgensen, D.J., Pollock, T.M. and Begley, M.R. 2015 "Dynamic response of thin films on substrates subjected to femtosecond laser pulses" *Acta mater.* 84 136-144
- Joshi, K.D., Rav, A., Sur, A., Das, P.C. and Gupta, S.C. 2015 "Shock induced spall fracture in aluminium alloy Al2014-T4" *AIP Conf. Proc.* 1665 060024
- Jourdan, G., Mariani, C., Houas, L., Chinnayya, A., Hadjadj, A., Del Prete, E., Haas, J.-F., Rambert, N., Counilh, D. and Faure, S. 2015 "Analysis of shock-wave propagation in aqueous foams using shock tube experiments" *Phys. Fluids* 27 056101
- Ju, Y.-Y. and Zhang, Q.-M. 2015 "Threshold for plasma phase transition of aluminum single crystal induced by hypervelocity impact" *Phys. Plasmas* 22 123514
- Kalasagarreddi, K., Sobhan, P.S.K., Gundu, V.K. and Nagaraja, S.R. 2015 "Simulation of shock wave assisted free and shape forming of metallic plates in a shock tube" *Appl. Mech. Mater.* 813 586-591
- Kaneko, S., Miyahara, M., Ohtani, E., Arai, T., Hirao, N. and Sato, K. 2015 "Discovery of stishovite in Apollo 15299 sample" *Amer. Mineralogist* 100 1308-1311
- Kanel, G.I., Razorenov, S.V., Garkushin, G.V., Savinykh, A.S. and Zaretsky, E.B. 2015 "Stress relaxation in vanadium under shock and shockless dynamic compression" *J. Appl. Phys.* 118 045901
- Kanel, G.I., Savinykh, A.S., Garkushin, G.V. and Razorenov, S.V. 2015 "Dynamic strength of tin and lead melts" *JETP Letts* 102 548-551
- Kanel, G.I. 2015 "Shock waves in relaxing condensed media", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 59-66, (Berlin, Springer)
- Kapahi, A. and Udaykumar, H.S. 2015 "Three-dimensional simulations of dynamics of void collapse in energetic materials" *Shock Waves* 25 177-187
- Kapahi, A., Hsiao, C.T. and Chahine, G.L. 2015 "Shock-induced bubble collapse versus Rayleigh collapse" *J. Phys.: Conf. Ser.* 656 012128
- Kapila, A.K., Schwendeman, D.W., Gambino, J.R. and Henshaw, W.D. 2015 "A numerical study of the dynamics of detonation initiated by cavity collapse" *Shock Waves* 25 545-572

- Karagiozova, D. and Alves, M. 2015 "Propagation of compaction waves in cellular materials with continuously varying density" *Int. J. Solids Structures* 71 323-337
- Karagiozova, D. and Alves, M. 2015 "Stress waves in layered cellular materials: Dynamic compaction under axial impact" *Int. J. Mech. Sci.* 101 196-213
- Kardomateas, G.A., Rodcheuy, N. and Frostig, Y. 2015 "Transient blast response of sandwich plates by dynamic elasticity" *AIAA Journal* 53 1424-1432
- Karinski, Y.S., Feldgun, V.R., Racah, E. and Yankelevsky, D.Z. 2015 "Mach stem due to an underground explosion near a rigid structure buried in soil" *Shock Waves* 25 63-76
- Kashkarov, A.O., Pruel, E.R., Ten, K.A., Aminov, Y.A., Kostitsyn, O.V., Muzyrya, A.K. and Smirnov, E.B. 2015 "Shock Hugoniot data for different initial density of TATB-based HE using synchrotron radiation", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 734-739, (Arlington, VA, Office of Naval Research)
- Kay, J.J., Jilek, B.A., Wixom, R.R., Knepper, R., Tappan, A. and Damm, D.L. 2015 "Spectroscopic analysis of time-resolved emission from shocked explosive samples", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 93-101, (Arlington, VA, Office of Naval Research)
- Kazakov, D.N., Kozelkov, O.E., Mayorova, A.S., Malyugina, S.N., Mokrushin, S.S. and Pavlenko, A.V. 2015 "Deformation of zirconium-niobium alloy E635 in sub-microsecond shock waves" *EPJ Web Conferences* 94 02020
- Kazakov, D.N., Kozelkov, O.E., Mayorova, A.S., Malyugina, S.N., Mokrushin, S.S. and Pavlenko, A.V. 2015 "Dynamic behavior of zirconium alloy E110 under submicrosecond shock-wave loading" *EPJ Web Conferences* 94 02021
- Keller, K., Brendler, E., Schmerler, S., Roder, C., Heide, G., Kortus, J. and Kroke, E. 2015 "Spectroscopic characterization of rocksalt-type aluminum nitride" *J. Phys. Chem. C* 119 12581-12588
- Key, C.T., Schumacher, S.C. and Alexander, C.S. 2015 "Evaluation of a strain based failure criterion for the multi-constituent composite model under shock loading" *EPJ Web Conferences* 94 04001
- Khanolkar, G.R., Haghighat, S., Hodge, A.M., Flores, K.M. and Eliasson, V. 2015 "Effect of loading rate on dynamic fracture morphology of a zirconium-based bulk metallic glass" *Mater. Trans.* 56 840-843
- Khanolkar, G., Haghighat, S., Hodge, A.M., Flores, K.M. and Eliasson, V. 2015 "Dynamic fracture morphology of bulk metallic glass subjected to shock compression", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 757-762, (Berlin, Springer)

- Khmelnikov, E.A., Styrov, A.V., Smagin, K.V., Kravchenko, N.S., Rudenko, V.L., Falaleev, V.I., Sokolov, S.S., Svidinsky, A.V. and Svidinskaya, N.F. 2015 "Study of high-speed interaction processes between fluoropolymer projectiles and aluminum-based targets" *Defence Technol.* 11 56-64
- Khokhlova, V., Yuldashev, P., Sinilshchikov, I., Partanen, A., Khokhlova, T., Farr, N., Kreider, W., Maxwell, A. and Sapozhnikov, O. 2015 "Use of shockwave heating for faster and safer ablation of tissue volumes in high intensity focused ultrasound therapy" *AIP Conf. Proc.* 1685 040001
- Kim, S., Horie, Y. and Zhou, M. 2015 "Ignition desensitization of PBX via aluminization" *Metall. Mater. Trans. A* doi: 10.1007/s11661-014-2605-6
- Kim, H.J., Yi, Y.S. and Park, L.J. 2015 "Analysis of forming characteristics of tantalum EFP according to material model" *EPJ Web Conferences* 94 04060
- Kim, K.H. and Yoh, J.J. 2015 "A direction sensitive detonation model for granular to continuum scale for shock initiation of PETN single crystal in multi-dimensions" *AIP Advances* 5 087155
- Kimura, T., Ozaki, N., Sano, T., Okuchi, T., Sano, T., Shimizu, K., Miyanishi, K., Terai, T., Kakeshita, T., Sakawa, Y. and Kodama, R. 2015 "P-p-T measurements of water up to 260 GPa under laser-driven shock" *J. Chem. Phys.* 142 164504
- Kingstedt, O.T. and Lambros, J. 2015 "Ultra-high speed imaging of laser-induced spallation" *Exper. Mech.* 55 587-598
- Kirane, K., Su, Y.W. and Bazant, Z.P. 2015 "Strain-rate-dependent microplane model for high-rate comminution of concrete under impact based on kinetic energy release theory" *Proc. R. Soc. A* 471 20150535
- Kirchek, A.V. and Silartev, S.A. 2015 "Determination of the energy parameters of the shock mechanism used to harden the surface by plastic deformation" *Appl. Mech. Mater.* 756 85-91
- Kiselev, A.B. and Mishchenko, A.V. 2015 "Elastoplastic models to describe experimental data on the spallation fracture under impact of plates" *Moscow Univ. Mech. Bull.* 70(6) 135-143
- Kishimura, H., Hamada, S., Aruga, A. and Matsumoto, H. 2015 "Photoluminescence studies of shock-recovered  $Y_2O_3:Eu^{3+}$ " *Appl. Phys. Letts* 106 011903
- Kitagawa, K., Nomura, T., Ohtani, K. and Abe, A. 2015 "Attenuation of underwater explosion propagating through porous compressible foam" *Sci. Technol. Energ. Mater.* 76 127-132
- Kittell, D.E., Mares Jr., J.O. and Son, S.F. 2015 "Using time-frequency analysis to determine time-resolved detonation velocity with microwave interferometry" *Rev. Sci. Instrum.* 86 044705

- Kittell, D.E., Mares, J.O. and Son, S.F. 2015 "A comparison of wavelet, quadrature, and peak-to-peak methods for determining shock velocity from microwave interferometer data", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 192-201, (Arlington, VA, Office of Naval Research)
- Klein, A.L., Bouwhuis, W., Visser, C.W., Lhuissier, H., Sun, C., Snoeijer, J.H., Villermaux, E., Lohse, D. and Gelderblom, H. 2015 "Drop shaping by laser-pulse impact" Phys. Rev. Appl. 3 044018
- Knepper, R., Marquez, M.P. and Tappan, A.S. 2015 "Effects of confinement on detonation behavior of vapor-deposited hexanitroazobenzene films", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 557-566, (Arlington, VA, Office of Naval Research)
- Knudson, M.D., Desjarlais, M.P. and Pribram-Jones, A. 2015 "Adiabatic release measurements in aluminum between 400 and 1200 GPa: Characterization of aluminum as a shock standard in the multimegabar regime" Phys. Rev. B 91 224105
- Knudson, M.D., Desjarlais, M.P., Becker, A., Lemke, R.W., Cochran, K.R., Savage, M.E., Bliss, D.E., Mattsson, T.R. and Redmer, R. 2015 "Direct observation of an abrupt insulator-to-metal transition in dense liquid deuterium" Science 348 1455-1460
- Kobayashi, T. 2015 "Particle velocity measurements of powdered materials under shock wave loading" Chem. Phys. Letts 640 153-156
- Kochetkov, I.I. and Pinaev, A.V. 2015 "Shock-wave processes in wire explosion in water and bubbly media" Combust. Explos. Shock Waves 51 722-731
- Koeman, E.C., Simonetti, A. and Burns, P.C. 2015 "Sourcing of copper and lead within red inclusions from Trinitite postdetonation material" Analyt. Chem. 87 5380-5386
- Köhler, A., Schlothauer, T., Schimpf, C., Klemm, V., Schwarz, M., Heide, G., Rafaja, D. and Kroke, E. 2015 "The role of oxygen in shockwave-synthesized  $\gamma$ -Si<sub>3</sub>N<sub>4</sub> material" J. Eur. Ceram. Soc. 35 3283-3288
- Kolel-Veetil, M.K., Gamache, R.M., Bernstein, N., Goswami, R., Qadri, S.B., Fears, K.P., Miller, J.B., Glaser, E.R. and Keller, T.M. 2015 "Substitution of silicon within the rhombohedral boron carbide crystal lattice through high-energy ball-milling" J. Mater. Chem. C 3 11705-11716
- Komabayashi, T., Kato, J., Hirose, K., Tsutsui, S., Imada, S., Nakajima, Y. and Baron, A.Q.R. 2015 "Temperature dependence of the velocity-density relation for liquid metals under high pressure: Implications for the Earth's outer core" Amer. Mineralogist 100 2602-2609

- Komissarov, P.V., Borisov, A.A., Sokolov, G.N. and Lavrov, V.V. 2015 "Experimental comparison of shock and bubble heave energies from underwater explosion of ideal HE and explosive composite mixtures highly enriched with aluminum" *Phys. Procedia* 72 333-337
- Konyukhov, A.V., Likhachev, A.P. and Fortov, V.E. 2015 "Behavior of relativistic shock waves in nuclear matter" *High Temp.* 53 622-626
- Korchuganov, A.V., Zolnikov, K.P., Kryzhevich, D.S., Chernov, V.M. and Psakhie, S.G. 2015 "Mobility of edge dislocations in stressed iron crystals during irradiation" *AIP Conf. Proc.* 1683 020095
- Koshkin, D.S., Gubskiy, K.I., Mikhailuk, A.V. and Kuznetsov, A.P. 2015 "VISAR Interferometer for measuring mass velocity in shock wave experiments" *Proc. SPIE* 9442 94420M
- Kozyrev, N.V. 2015 "Reparametrization of the BKW equation of state for CHNO explosives which release no condensed carbon upon detonation" *Central Eur. J. Energ. Mater.* 12 651-670
- Krasnikov, V.S. and Mayer, A.E. 2015 "Plasticity driven growth of nanovoids and strength of aluminum at high rate tension: Molecular dynamics simulations and continuum modeling" *Int. J. Plast.* 74 75-91
- Kraus, R.G., Root, S., Lemke, R.W., Stewart, S.T., Jacobsen, S.B. and Mattson, T.R. 2015 "Impact vaporization of planetesimal cores in the late stages of planet formation" *Nature Geoscience* 8 269-272
- Kraus, E.I. and Shabalin, I.I. 2015 "Calculation of elastic modulus behind strong shock wave" *J. Phys.: Conf. Ser.* 653 012085
- Krehl, P.O.K. 2015 "The classical Rankine-Hugoniot jump conditions, an important cornerstone of modern shock wave physics: Ideal assumptions vs. reality" *Eur. Phys. J. H* 40 159-204
- Krishnan, K., Brown, A.D., Wayne, L., Vo, J., Opie, S., Lim, H., Peralta, P., Luo, S.N., Byler, D., McClellan, K.J., Koskelo, A., Pham, Q. and Dickerson, R. 2015 "Three-dimensional characterization and modeling of microstructural weak links for spall damage in fcc metals" *Metall. Mater. Trans. A* 46 4527-4538
- Kubo, T., Kato, T., Higo, Y. and Funakoshi, K. 2015 "Curious kinetic behavior in silica polymorphs solves seifertite puzzle in shocked meteorite" *Science Advances* 1 e1500075
- Kugeshev, V.I. 2015 "Method of volumetric flaw detection of structures made of refractory materials, brick masonry, and heat-resistant concrete by means of shock pulses" *Refract. Indust. Ceram.* 56 210-215
- Kuhl, A.L., White, D.A., Balakrishnan, K., Bell, J.B. and Beckner, V.E. 2015 "Model of conductivity profiles in TNT detonations", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 390-395, (Arlington, VA, Office of Naval Research)

- Kuhl, A.L. 2015 "On the structure of self-similar detonation waves in TNT charges" *Combust. Explos. Shock Waves* 51 72-79
- Kulkov, S., Vorozhtsov, S. and Turuntaev, I. 2015 "Structure, phase content and mechanical properties of aluminium with hard particles after shock-wave compaction" *J. Phys.: Conf. Ser.* 602 012019
- Kumar, D., Singh, J., Kumar, S., Sushila and Singh, B.P. 2015 "Numerical computation of nonlinear shock wave equation of fractional order" *Ain Shams Engng J.* 6 605-611
- Künzel, M., Nemeč, O. and Pachman, J. 2015 "Optimization of wall velocity measurements using photonic Doppler velocimetry (PDV)" *Central Eur. J. Energ. Mater.* 12 89-97
- Kurosawa, K., Nagaoka, Y., Senshu, H., Wada, K., Hasegawa, S., Sugita, S. and Matsui, T. 2015 "Dynamics of hypervelocity jetting during oblique impacts of spherical projectiles investigated via ultrafast imaging" *J. Geophys. Res.: Planets* 120 1237-1251
- La Lone, B.M., Marshall, B.R., Miller, E.K., Stevens, G.D., Turley, W.D. and Veaser, L.R. 2015 "Simultaneous broadband laser ranging and photonic Doppler velocimetry for dynamic compression experiments" *Rev. Sci. Instrum.* 86 023112
- Lacy, J.M., Smith, J.A. and Rabin, B.H. 2015 "Developing a laser shockwave model for characterizing diffusion bonded interfaces" *AIP Conf. Proc.* 1650 1376-1385
- Lai, J., Guo, X. and Zhu, Y. 2015 "Repeated penetration and different depth explosion of ultra-high performance concrete" *Int. J. Impact Engng* 84 1-12
- LaJeunesse, J., Borg, J. and Martin, B. 2015 "Simulating the planar shock response of concrete", in "Dynamic Behavior of Materials", ed. B. Song, D. Casem and J. Kimberley, pp. 369-377, (Berlin, Springer)
- Lambourn, B.D., Handley, C.A. and Lacy, H.J. 2015 "Implications of mesoscale phenomena on modelling the shock to detonation transition at continuum scale", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1021-1030, (Arlington, VA, Office of Naval Research)
- Langdon, G.S., Lee, W.C. and Louca, L.A. 2015 "The influence of material type on the response of plates to air-blast loading" *Int. J. Impact Engng* 78 150-160
- Langeslag, S.A.E., Sgobba, S., Libeyre, P. and Gung, C.-Y. 2015 "Extensive characterisation of copper-clad plates, bonded by the explosive technique, for ITER electrical joints" *Phys. Procedia* 67 1036-1042
- Lanterman, D.D. 2015 "An improved empirical fit of the detonation product isentrope near the CJ point", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 466-470, (Arlington, VA, Office of Naval Research)

- Lässig, T., Nguyen, L., May, M., Riedel, W., Heisserer, U., van der Werff, H. and Hiermaier, S. 2015 "A nonlinear orthotropic hydrocode model for ultra-high molecular weight polyethylene in impact simulations" *Int. J. Impact Engng* 75 110-122
- Lässig, T., Bagusat, F., May, M. and Hiermaier, S. 2015 "Analysis of the shock response of UHMWPE composites using the inverse planar plate impact test and the shock reverberation technique" *Int. J. Impact Engng* 86 240-248
- Lau-Chapdelaine, S.S., Tang, J., Zhang, F. and Radulescu, M.I. 2015 "On the existence and stability of double-front detonations", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1052-1062, (Arlington, VA, Office of Naval Research)
- Lazicki, A., Rygg, J.R., Coppari, F., Smith, R., Fratanduono, D., Kraus, R.G., Collins, G.W., Briggs, R., Braun, D.G., Swift, D.C. and Eggert, J.H. 2015 "X-ray diffraction of solid tin to 1.2 TPa" *Phys. Rev. Letts* 115 075502
- Lebedev, A.D., Tkachenko, G.V. and Uryukov, B.A. 2015 "Combining electrodynamic and reaction accelerations in a railgun" *High Temp.* 53 771-774
- LeBlanc, J. and Shukla, A. 2015 "Response of polyurea-coated flat composite plates to underwater explosive loading" *J. Compos. Mater.* 49 965-980
- Lee, J., Hwang, E., Baek, S.H., Park, J.-S. and Lee, K. 2015 "SDT characteristics of a HNIW-based explosive", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 762-770, (Arlington, VA, Office of Naval Research)
- Lee, J., Han, J.H., Lee, Y. and Lee, H. 2015 "A parametric study of ridge-cut explosive bolts using hydrocodes" *Int. J. Aeronaut. Space Sci.* 16 50-63
- Lee, J.W., Ohm, W.S. and Shim, W. 2015 "Modeling of strongly nonlinear wave propagation using the extended Rankine-Hugoniot shock relations" *AIP Conf. Proc.* 1685 070011
- Lee, T., Kim, G., Choe, G.C. and Kang, Y. 2015 "Melting effect on fiber to prevent spalling on high strength concrete" *Asian J. Chem.* 27 4197-4200
- Leela, C., Bagchi, S., Tewari, S.P. and Kiran, P.P. 2015 "Interaction of laser-induced micro shock waves", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 965-970, (Berlin, Springer)
- Lekanov, M.V. and Mayer, A.E. 2015 "Numerical simulation of experiments on the high-speed impact of metal plates" *J. Phys. Conf. Ser.* 653 012044
- Lepikhin, P.P., Romashchenko, V.A., Beiner, O.S., Storozhuk, V.N., Babich, Y.N. and Bakhtina, E.V. 2015 "A program for numerical calculation of dynamic stress-strain state and strength of hollow multilayer anisotropic cylinders and spheres. 1: Program description" *Strength Mater.* 47 249-256



- Lepikhin, P.P., Romashchenko, V.A., Beiner, O.S., Storozhuk, V.N., Babich, Y.N. and Bakhtina, E.V. 2015 "A program for numerical calculation of dynamic stress-strain state and strength of hollow multilayer anisotropic cylinders and spheres. 2: Comparison of numerical results with experimental and theoretical for cylinder" *Strength Mater.* 47 406-414
- Levesque, G.A. and Vitello, P. 2015 "The effect of pore morphology on hot spot temperature" *Propell. Explos. Pyrotech.* 40 303-308
- Li, J., Mi, X. and Higgins, A.J. 2015 "Geometric scaling for a detonation wave governed by a pressure-dependent reaction rate and yielding confinement" *Phys. Fluids* 27 027102
- Li, Y.-H., Zhang, N.-C., Wang, W.-P. and Liu, F.-S. 2015 "Nanosecond rapid crystallization of water induced by quartz glass under dynamic compression" *Chinese J. Chem. Phys.* 8 113-118
- Li, X., Chao, Y., Wu, J., Han, R., Zhou, H. and Qiu, A. 2015 "Study of the shock waves characteristics generated by underwater electrical wire explosion" *J. Appl. Phys.* 118 023301
- Li, Q., Wang, Z., Wang, Z. and Yan, H. 2015 "Novel method for estimating the dynamic characteristics of pressure sensor in shock tube calibration test" *Rev. Sci. Instrum.* 86 065002
- Li, L., Xue, P. and Chen, Y. 2015 "Investigation into stress wave propagation in metal foams" *EPJ Web Conferences* 94 04036
- Li, J., Mi, X.-C. and Higgins, A.J. 2015 "Propagation distance required to reach steady-state detonation velocity in finite-sized charges", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 777-786, (Arlington, VA, Office of Naval Research)
- Li, C.Y., Wang, C., Wu, Z.Q., Li, Z., Li, D.F. and Zhang, P. 2015 "Electrical and optical properties of warm dense beryllium along the principal Hugoniot" *Phys. Plasmas* 22 092705
- Li, T., Fan, D., Lu, L., Huang, J.Y., Zhao, F., Qi, M.L., Sun, T., Fezzaa, K., Xiao, X.H., Zhou, X.M., Suo, T., Chen, W., Li, Y.L., Zhu, M.H. and Luo, S.N. 2015 "Dynamic fracture of C/SiC composites under high strain-rate loading: Microstructures and mechanisms" *Carbon* 91 468-478
- Li, J., Mi, X. and Higgins, A.J. 2015 "Effect of spatial heterogeneity on near-limit propagation of a pressure-dependent detonation" *Proc. Combust. Inst.* 35 2025-2032
- Li, C.-Y., Wang, C., Wu, Z.-Q., Li, Z., Li, D.-F. and Zhang, P. 2015 "Electrical and optical properties of warm dense beryllium along the principal Hugoniot" *Phys. Plasmas* 22 092705

- Li, Z., Wang, C., Kang, W., Li, C.-Y. and Zhang, P. 2015 "Temperature and compression effects on electron heat capacity and electron-phonon coupling in aluminum and beryllium: Insights from ab initio simulations" *Phys. Plasmas* 22 112705
- Li, J.W., Kang, W., He, X.T., Li, J.H. and Zheng, W.D. 2015 "Laser imprint reduction for the critical-density foam buffered target driven by a relatively strong foot pulse at early stage of laser implosions" *Phys. Plasmas* 22 122707
- Li, Y., Li, J.H. and Liu, B.X. 2015 "Homogeneous shear-driven reversible  $\alpha$ -to- $\alpha$ " phase transformation and superelasticity of titanium investigated by molecular dynamics simulations" *Acta mater.* 93 105-113
- Li, J., Wu, C. and Hao, H. 2015 "Investigation of ultra-high performance concrete slab and normal strength concrete slab under contact explosion" *Engng Struct.* 102 395-408
- Liao, Y., Xiang, M.Z., Zeng, X.G. and Chen, J. 2015 "Molecular dynamics studies of the roles of microstructure and thermal effects in spallation of aluminum" *Mech. Mater.* 84 12-27
- Liezers, M., Fahey, A.J., Carman, A.J. and Eiden, G.C. 2015 "The formation of trinitite-like surrogate nuclear explosion debris (SNED) and extreme thermal fractionation of SRM-612 glass induced by high power CW CO<sub>2</sub> laser irradiation" *J. Radioanalyt. Nuclear Chem.* 304 705-715
- Lin, D., Saei, M., Suslov, S., Jin, S.Y. and Cheng, G.J. 2015 "Super-strengthening and stabilizing with carbon nanotube harnessed high density nanotwins in metals by shock loading" *Scientific Reports* 5 doi: 10.1038/srep15405
- Lin, L.Q. and Zeng, X.W. 2015 "Computational modeling and simulation of spall fracture in polycrystalline solids by an atomistic-based interfacial zone model" *Engng Fract. Mech.* 142 50-63
- Ling, Z., Huang, X. and Dai, L.H. 2015 "Penny-shaped crack propagation in spallation of zirconium bulk metallic glasses" *EPJ Web Conferences* 94 02016
- Liu, Q.-C., Zhou, X.-M., Zeng, X.-L. and Luo, S.N. 2015 "Sound velocity, equation of state, temperature and melting of LiF single crystals under shock compression" *J. Appl. Phys.* 117 045901
- Liu, J., Hou, B., Lu, F. and Zhao, H. 2015 "A theoretical study of shock front propagation in the density graded cellular rods" *Int. J. Impact Engng* 80 133-142
- Liu, X., Mashimo, T., Li, W., Zhou, X. and Sekine, T. 2015 "Elastic-plastic and phase transition of zinc oxide single crystal under shock compression" *J. Appl. Phys.* 117 095901
- Liu, J. and Wang, Z. 2015 "The theoretical analysis and numerical simulation of the metal jet incoherence" *EPJ Web Conferences* 94 04058

- Liu, Y., Wu, D., Yao, S.B. and Wang, J.P. 2015 "Analytical and numerical investigations of wedge-induced oblique detonation waves at low inflow Mach number" *Combust. Sci. Technol.* 187 843-856
- Liu, H., Li, Q.K. and He, Y.H. 2015 "Molecular dynamics simulations of shock initiation of CL-20/TNT cocrystal (in Chinese)" *Acta Phys. Sinica* 64 018201
- Liu, Z.L. 2015 "PHASEGO: A toolkit for automatic calculation and plot of phase diagram" *Comput. Phys. Commun.* 191 150-158
- Liu, C.M., Xu, C., Cheng, Y., Chen, X.R. and Cai, L.C. 2015 "Orientation-dependent responses of tungsten single crystal under shock compression via molecular dynamics simulations" *Comput. Mater. Sci.* 110 359-367
- Liu, Z.L. 2015 "PHASEGO 2.0: Counting full anharmonic effects from high-temperature phonon density of states" *Comput. Phys. Commun.* 197 341-342
- Liu, Z.L., Zhang, X.L. and Cai, L.C. 2015 "Shock melting method to determine melting curve by molecular dynamics: Copper, palladium, and aluminum" *J. Chem. Phys.* 143 114101
- Liu, Y., Oganov, A.R., Wang, S.N., Zhu, Q., Dong, X. and Kresse, G. 2015 "Prediction of new thermodynamically stable aluminum oxides" *Scientific Reports* 5 doi: 10.1038/srep09518
- Liu, M.L. and Su, Z.Q. 2015 "On propagation of shock waves generated under hypervelocity impact and application to characterizing orbital debris-induced damage in space vehicles" *Proc. SPIE* 9438 94381R
- Liu, M.L., Su, Z.Q., Zhang, Q.M. and Long, R.R. 2015 "Modeling on propagation of shock waves Induced by hypervelocity impact (HVI) with application to evaluation of HVI damage", in "Structural Health Monitoring 2015: System Reliability for Verification and Implementation", ed. F.K. Chang and F. Kopsaftopoulos, pp. 1540-1547, (Lancaster, PA, DesTech)
- Liu, H.X., Guo, Y.C. and Lin, W.Y. 2015 "Simulation of shock-powder interaction using kinetic theory of granular flow" *Powder Technol.* 273 133-144
- Liverts, M., Ram, O., Sadot, O., Apazidis, N. and Ben-Dor, G. 2015 "Mitigation of exploding-wire-generated blast-waves by aqueous foam" *Phys. Fluids* 27 076103
- Lloyd, J.T. and Clayton, J.D. 2015 "Simulation-based study of layered aluminum crystal microstructures subjected to shock loading" *Procedia Engng* 103 349-356
- Lloyd, J.T., Clayton, J.D., Austin, R.A. and McDowell, D.L. 2015 "Shock compression modeling of metallic single crystals: Comparison of finite difference, steady wave, and analytical solutions" *Adv. Model. Simul. Engng Sci.* 2 doi: 10.1186/s40323-015-0036-6

- Loiseau, J., Georges, W., Frost, D.L. and Higgins, A.J. 2015 "Acceleration of planar flyers by explosives heavily laden with inert materials", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1381-1391, (Arlington, VA, Office of Naval Research)
- Long, Y. and Chen, J. 2015 "Systematic study of the reaction kinetics for HMX" *J. Phys. Chem. A* 119 4073-4082
- Long, Y. and Chen, J. 2015 "Theoretical study of the thermodynamic properties, phase transition wave, and phase transition velocity for HMX" *J. Appl. Phys.* 118 115901
- Long, X.J., Zhao, F.P., Liu, H.K., Huang, J.Y., Lin, Y., Zhu, J. and Luo, S.N. 2015 "Anisotropic shock response of Stone-Wales defects in graphene" *J. Phys. Chem. C* 119 7453-7450
- Loomis, E., Hammerberg, J., Cooley, J.C., Shimada, T., Johnson, R.P., Peralta, P., Olson, R. and Gray III, G.T. 2015 "High-resolution measurements of shock behavior across frictional Be/Cu interfaces" *J. Appl. Phys.* 117 185906
- Lorenz, K.T., Lee, E.L. and Chambers, R. 2015 "A simple and rapid evaluation of explosive performance: The disc acceleration experiment" *Propell. Explos. Pyrotech.* 40 95-108
- Louar, M.A., Belkassam, B., Ousji, H., Spranghers, K., Kakogiannis, D., Pyl, L. and Vantomme, J. 2015 "Explosive driven shock tube loading of aluminium plates: Experimental study" *Int. J. Impact Engng* 86 111-123
- Low, T.S.E., Brown, D.W., Welk, B.A., Cerreta, E.K., Okasinski, J.S. and Niezgod, S.R. 2015 "Isothermal annealing of shocked zirconium: Stability of the two-phase  $\alpha/\omega$  microstructure" *Acta mater.* 91 101-111
- Lu, J.P., Kuznetsov, V.A. and Mellen, P. 2015 "Simulation of shock initiation tests", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 787-796, (Arlington, VA, Office of Naval Research)
- Lu, X., Wang, S.S., Ma, F. and Hao, Y.P. 2015 "Numerical simulation on pressure field characteristics of underwater explosion with double explosive sources" *Appl. Mech. Mater.* 713 1794-1799
- Lu, C.H., Hahn, E.N., Remington, B.A., Maddox, B.R., Bringa, E.M. and Meyers, M.A. 2015 "Phase transformation in tantalum under extreme laser deformation" *Scientific Reports* 5 doi: 10.1038/srep15064
- Lucas, M., Winey, J.M. and Gupta, Y.M. 2015 "Sound velocities in highly oriented pyrolytic graphite shocked to 18 GPa: Orientational order dependence and elastic instability" *J. Appl. Phys.* 118 245903
- Lukinov, T., Simak, S.I. and Belonoshko, A.B. 2015 "Sound velocity in shock compressed molybdenum obtained by ab initio molecular dynamics" *Phys. Rev. B* 92 060101

- Luo, B., Wang, G., Tan, F., Zhao, J., Liu, C. and Sun, C. 2015 "Dynamic behaviors of a zirconium-based bulk metallic glass under ramp wave and shock wave loading" *AIP Advances* 5 067161
- Luo, F., Guo, Z.C., Zhang, X.L., yuan, C.Y. and Cai, L.C. 2015 "First principles study of the temperature-dependent elastic properties of tungsten" *Philos. Mag. Letts* 95 211-219
- Luo, X., Wang, M., Si, T. and Zhai, Z. 2015 "On the interaction of a planar shock with an SF<sub>6</sub> polygon" *J. Fluid Mech.* 773 366-394
- Luu, T.T., Garg, M., Kruchinin, S.Y., Moulet, A., Hassan, M.T. and Goulielmakis, E. 2015 "Extreme ultraviolet high-harmonic spectroscopy of solids" *Nature* 521 498-502
- Lysak, V.I. and Kuzmin, S.V. 2015 "Energy balance during explosive welding" *J. Mater. Process. Technol.* 222 356-364
- Ma, Q., Wang, P., Luo, G., Wen, M., Gao, D., Zheng, B. and Shu, Y.-J. 2015 "Microstructure, mechanical and detonation properties of elastomeric micro/ultrafine-rubber modified TNT-based molten energetic composites" *Central Eur. J. Energ. Mater.* 12 723-745
- Mabeswaran, M.-A., Curtis, J.P. and Reaugh, J.E. 2015 "Modeling the shock to detonation transition in PETN using CREST", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1042-1051, (Arlington, VA, Office of Naval Research)
- MacPhee, A.G., Peterson, J.L., Casey, D.T., Clark, D.S., Haan, S.W., Jones, O.S., Landen, O.L., Milovich, J.I., Robey, H.F. and Smalyuk, V.A. 2015 "Stabilization of high-compression, indirect-drive inertial confinement fusion implosions using a 4-shock adiabat-shaped drive" *Phys. Plasmas* 22 080702
- Madej, J., Perzynski, K. and Paul, H. 2015 "Numerical modelling of explosive welding on the basis of the coupled Eulerian Lagrangian approach" *Key Engng Mater.* 651 1415-1420
- Madhavan, S., Mehra, V., Pahari, S., Ghosh, S., Sijoy, C.D. and Chaturvedi, S. 2015 "Buckling and longitudinal cracks in electromagnetically accelerated hollow cylinders" *Int. J. Fract.* 193 1-16
- Maeno, S., Wang, J., Fukuda, S. and Abe, A. 2015 "Observation and analysis of microbubble motion induced by an underwater shock wave", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 1445-1450, (Berlin, Springer)
- Maevskii, K.K. and Kinelovskii, S.A. 2015 "Thermodynamic parameters for mixtures of quartz under shock wave loading in view of the equilibrium model" *AIP Conf. Proc.* 1683 020132
- Magaletti, F., Marino, L. and Casciola, C.M. 2015 "Shock wave formation in the collapse of a vapor nanobubble" *Phys. Rev. Letts* 114 064501

- Magyar, R.J., Root, S., Cochrane, K., Mattsson, T.R. and Flicker, D.G. 2015 "Ethane-xenon mixtures under shock conditions" *Phys. Rev. B* 91 134109
- Mahmadi, K. and Aquelet, N. 2015 "Euler-Lagrange simulation of high pressure shock waves" *Wave Motion* 54 28-42
- Mahon, K.S. and Lee, T.-W. 2015 "Compaction of granular HMX: P- $\alpha$  porosity model in CTH hydrocode" *AIP Advances* 5 127121
- Maia, F.C.B., Samad, R.E., Bettini, J., Freitas, R.O., Vieira, N.D. and Souza-Neto, N.M. 2015 "Synthesis of diamond-like phase from graphite by ultrafast laser driven dynamical compression" *Scientific Reports* 5 doi: 10.1038/srep11812
- Makarov, P.V. and Bakeev, R.A. 2015 "Simulation of spallation of metals in relation to operating stresses in the nanosecond loading time range" *AIP Conf. Proc.* 1683 020134
- Makki, E.A., Parrikar, P.N. and Shukla, A. 2015 "Response of coated laminated glass panels subjected to combined blast and temperature loadings" *J. Dyn. Behav. Mater.* 1 409-422
- Mallon, S., Kidane, A. and Lu, W.-Y. 2015 "Full-field deformation observation of polymer foam subjected to shock loading", in "Dynamic Behavior of Materials", ed. B. Song, D. Casem and J. Kimberley, pp. 83-89, (Berlin, Springer)
- Mallon, S., Koohbor, B. and Kidane, A. 2015 "Fracture of prestressed woven glass fiber composite exposed to shock loading", in "Dynamic Behavior of Materials", ed. B. Song, D. Casem and J. Kimberley, pp. 213-219, (Berlin, Springer)
- Mallon, S., Kochbor, B., Kidane, A. and Sutton, M.A. 2015 "Fracture behavior of prestressed composites subjected to shock loading: A DIC-based study" *Exper. Mech.* 55 211-225
- Malygin, G.A., Ogarkov, S.L. and Andriyash, A.V. 2015 "Synergetics of the interaction of mobile and immobile dislocations in the formation of dislocation structures in a shock wave: Effect of the stacking fault energy" *Phys. Solid State* 57 79-86
- Malygin, G.A. 2015 "A dislocation kinetic model of the dislocation structure formation in a nanocrystalline material under intense shock wave propagation" *Phys. Solid State* 57 967-973
- Malygin, G.A., Ogarkov, S.L. and Andriyash, A.V. 2015 "Dislocation-kinetic analysis of fcc and bcc crystal spallation under shock-wave loading" *Phys. Solid State* 57 1818-1826
- Mandal, A. and Gonthier, K.A. 2015 "Thermomechanics of transient oblique compaction shock reflection from a rigid boundary" *Shock Waves* 25 589-610
- Markidonov, A.V., Starostenkov, M.D., Soskov, A.A. and Poletaev, G.M. 2015 "Molecular dynamics study of structural transformations of cylindrical nanopores in gold under thermal activation conditions and under the action of acoustic and shock waves" *Phys. Solid State* 57 1551-1554

- Marques, W., Soares, A.J., Bianchi, M.P. and Kremer, G.M. 2015 "Equilibrium and stability properties of detonation waves in the hydrodynamic limit of a kinetic model" *J. Phys. A: Math. Theor.* 48 235501
- Martinovic, S., Vlahovic, M., Stevic, Z. and Husovic, T.V. 2015 "Influence of sintering temperature on low level laser destruction of low cement high alumina refractory concrete" *Engng Struct.* 99 462-467
- Mattsson, A.E. and Rider, W.J. 2015 "Artificial viscosity: Back to the basics" *Int. J. Numer. Meth. Fluids* 77 400-417
- Mayer, A.E. and Mayer, P.N. 2015 "Strength of solid and molten aluminum under dynamic tension" *JETP Letts* 102 80-84
- Mayer, P.N. and Mayer, A.E. 2015 "Model of fracture of metal melts and the strength of melts under dynamic conditions" *J. Exper. Theor. Phys.* 121 35-47
- McGonegle, D., Milathianaki, D., Remington, B.A., Wark, J.S. and Higginbotham, A. 2015 "Simulations of in situ X-ray diffraction from uniaxially compressed highly textured polycrystalline targets" *J. Appl. Phys.* 118 065902
- McGrane, S.D., Brown, K.E., Dang, N.C. and Moore, D.S. 2015 "Implications of kinetic data from ultrafast laser shock experiments", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 304-310, (Arlington, VA, Office of Naval Research)
- Mejia-Alvarez, R., Wilson, B., Leftwich, M.C., Martinez, A.A. and Prestridge, K.P. 2015 "Design of a fast diaphragmless shock tube driver" *Shock Waves* 25 635-650
- Melikhova, O., Cizek, J., Chen, Y.Z., Suo, T., Prochazka, I. and Liu, F. 2015 "Effect of hydrogen on generation of lattice defects in shock-loaded palladium" *J. Alloys Compounds* 645 S472-S475
- Menezes, V., Hosseini, H., Mossavi-Nejad, S., Irimpan, K.J. and Akiyama, H. 2015 "Motion of free-surface of shock-compressed water on emergence of rarefaction" *Appl. Phys. Letts* 107 143701
- Menikoff, R. 2015 "Detonation wave profile" Rep. no. LA-UR-29498 Los Alamos National Laboratory)
- Menikoff, R. 2015 "Shock-to-detonation transition simulations" Rep. no. LA-UR-25266 Los Alamos National Laboratory)
- Mercer, C.M., Young, K.E., Weirich, J.R., Hodges, K.V., Jolliff, B.L., Wartho, J.-A. and van Soest, M.C. 2015 "Refining lunar impact chronology through high spatial resolution  $^{40}\text{Ar}/^{39}\text{Ar}$  dating of impact melts" *Science Advances* 1 e1400050
- Merzhievskii, L.A. 2015 "Deformation models under intense dynamic loading: Review" *Combust. Explos. Shock Waves* 51 269-283
- Meshcheryakov, S.A. and Lipnitskii, Y.M. 2015 "Estimated efficiency of the deflection of a dangerous space object using an explosion or impact" *Tech. Phys.* 60 26-30

- Mespoulet, J., Plassard, F. and Hereil, P.L. 2015 "Strain rate sensitivity of autoclaved aerated concrete from quasistatic regime to shock loading" EPJ Web Conferences 94 01053
- Mi, X.-C. and Higgins, A.J. 2015 "Influence of discrete sources on detonation propagation in a Burgers equation analog system" Phys. Rev. E 91 053014
- Michael, L. and Nikofarakis, N. 2015 "The temperature field around collapsing cavities in condensed phase explosives", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 60-70, (Arlington, VA, Office of Naval Research)
- Mihaly, J.M., Tandy, J.D., Rosakis, A.J., Adams, M.A. and Pullin, D. 2015 "Pressure-dependent, infrared-emitting phenomenon in hypervelocity impact" Trans. ASME: J. Appl. Mech. 82 011004
- Mikheev, G.M., Vanyukov, V.V., Mogileva, T.N., Puzyr, A.P., Bondar, v.S. and Svirko, Y.P. 2015 "Saturable absorption in aqueous suspensions of detonation nanodiamonds under irradiation with femtosecond laser pulses" Tech. Phys. Letts 41 1163-1166
- Militzer, B. and Driver, K.P. 2015 "Development of path integral Monte Carlo simulations with localized nodal surfaces for second-row elements" Phys. Rev. Letts 115 176403
- Millett, J.C.F. 2015 "Modifications of the response of materials to shock loading by age hardening" Metall. Mater. Trans. A 46 4506-4517
- Millot, M., Dubrovinskaia, N., Cernok, A., Blaha, S., Dubrovinsky, L., Braun, D.G., Celliers, P.M., Collins, G.W., Eggert, J.H. and Jeanloz, R. 2015 "Shock compression of stishovite and melting of silica at planetary interior conditions" Science 347 418-420
- Milovich, J.L., Robey, H.F., Clark, D.S., Baker, K.L., Casey, D.T., Cerjan, C., Field, J., MacPhee, A.G., Pak, A., Patel, P.K., Peterson, J.L., Smalyuk, V.A. and Weber, C.R. 2015 "Design of indirectly driven, high-compression Inertial Confinement Fusion implosions with improved hydrodynamic stability using a 4-shock adiabat-shaped drive" Phys. Plasmas 22 122702
- Mintsev, V.B. and Fortov, V.E. 2015 "Transport properties of warm dense matter behind intense shock waves" Laser Particle Beams 33 41-50
- Mirova, O.A., Kotelnikov, A.L., Golub, V.V. and Bazhenova, T.V. 2015 "Shock wave effect on protective sand screens of different thicknesses" High Temp. 53 155-157
- Mitrofanov, A., Ilyakova, N., Krechetov, A., Terentyeva, A. and Zverev, A. 2015 "Fluctuation model of laser initiation of primary explosives", in "Proc. 18th Seminar on New Trends in Research of Energetic Materials", ed. J. Pachman and J. Selesovsky, pp. 736-739, (Pardubice, Czech Republic, University of Pardubice)



- Miyahara, M., Ohtani, E., El Goresy, A., Lin, Y.T., Feng, L., Zhang, J.C., Gillet, P., Nagase, T., Muto, J. and Nishijima, M. 2015 "Unique large diamonds in a ureilite from Almahata Sitta 2008 TC3 asteroid" *Geochim. Cosmochim. Acta* 163 14-26
- Miyanishi, K., Tange, Y., Ozaki, N., Kimura, T., Sano, T., Sakawa, Y., Tsuchiya, T. and Kodama, R. 2015 "Laser-shock compression of magnesium oxide in the warm-dense-matter regime" *Phys. Rev. E* 92 023103
- Mochalov, M.A., Ilkaev, R.I., Fortov, V.E., Mikhailov, A.L., Arinin, V.A., Blikov, A.O., Komrakov, V.A., Ryzhkov, A.V., Ogorodnikov, V.A. and Yukhimchuk, A.A. 2015 "Thermodynamic properties of a nonideal helium plasma at quasi-isentropic compression by a factor of 575 at a pressure of 3000 GPa" *JETP Letts* 101 519-526
- Mochalova, V., Utkin, A., Torunov, S. and Koldunov, S. 2015 "The instability of detonation waves for nitromethane and FEFO", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 852-858, (Arlington, VA, Office of Naval Research)
- Modak, P., Verma, A.K. and Sharma, S.M. 2015 "Determination of the third-order elastic constants of diamond by shock wave simulations" *Europhys. Letts* 110 56003
- Mohamed, F., Hafsaoui, A., Talhi, K. and Menacer, K. 2015 "Study of the powder factor in surface bench blasting" *Procedia Earth Planet. Sci.* 15 892-899
- Mokhov, A.V., Gornostaeva, T.A., Kartashov, P.M., Asadulin, E.E. and Bogatikov, O.A. 2015 "Nanocrystals of native iron and titanium in impact glasses of the lunar regolith" *Dokl. Earth Sci.* 460 118-122
- Mokhova, V.V., Volkov, D.A., Tilkunov, A.V. and Orlov, N.I. 2015 "Rotations of monoblocks of a single crystal in a shock wave front during the measurement of the interplanar spacing by two characteristic radiation lines" *Phys. Solid State* 57 794-797
- Mokhova, V.V., Volkov, D.A., Tilkunov, A.V. and Orlov, N.L. 2015 "Dynamic state of a crystal ahead of the shock-wave front" *Phys. Solid State* 57 1565-1568
- Mokhova, V.V., Mikhailov, A.L., Tilkunov, A.V., Orlov, N.I., Kanunova, L.I., Bragunets, V.A., Tkachenko, M.I., Simakov, V.G., Sokolov, S.S. and Podurets, A.M. 2015 "Mechanisms of fracture of the free surface of shock-compressed metals" *J. Exper. Theor. Phys.* 121 1007-1014
- Mokrushin, S.S., Karnaukhov, E.I., Malugina, S.N., Kazakov, D.N., Kozelkov, O.E. and Pavlenko, A.V. 2015 "Research of dynamic properties of alloys of AMg6BM and AMg6M in shock-wave experiment on a gas gun" *EPJ Web Conferences* 94 01055
- Molodets, A.M. 2015 "Temperature dependence of the spall strength and equation of state for austenitic chromium–nickel steel 18-10" *Phys. Solid State* 57 2045-2050

- Monfared, S.K., Buttler, W.T., Frayer, D.K., Grover, M., LaLone, B.M., Stevens, G.D., Stone, J.B., Turley, W.D. and Schauer, M.M. 2015 "Ejected particle size measurement using Mie scattering in high explosive driven shockwave experiments" *J. Appl. Phys.* 117 223105
- Monloubou, M., Saint-Jalmes, A., Dollet, B. and Cantat, I. 2015 "Influence of bubble size and thermal dissipation on compressive wave attenuation in liquid foams" *Europhys. Letts* 112 34001
- Monteux, J., Amit, H., Choblet, G., Langlais, B. and Tobie, G. 2015 "Giant impacts, heterogeneous mantle heating and a past hemispheric dynamo on Mars" *Phys. Earth Planet. Interiors* 240 114-124
- Morozov, V.A., Savenkov, G.G., Barakhtin, B.k., Lukin, A.A., Gunko, Y.F. and Rudometkin, K.A. 2015 "Crack velocity in ultrafast loading" *Tech. Phys. Letts* 41 117-119
- Moskvitina, L.V. 2015 "Analysis of fracture toughness of explosion-hardened martensitic steel" *AIP Conf. Proc.* 1683 020154
- Mota, R.P., Campos, E., Santos, C.N., Lucena, E.F., Machida, M. and Melo, F.C.L. 2015 "Surface analysis of alumina ceramic exposed to shock waves produced by plasma expander" *J. Phys.: Conf. Ser.* 591 012059
- Munafò, A., Liu, Y. and Panesi, M. 2015 "Modeling of dissociation and energy transfer in shock-heated nitrogen flows" *Phys. Fluids* 27 127101
- Murakami, M., Sanz, J. and Iwamoto, Y. 2015 "Stability of spherical converging shock wave" *Phys. Plasmas* 22 072703
- Murphy, M.J. 2015 "SWIFT and explosive PIV", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 237-243, (Arlington, VA, Office of Naval Research)
- Murr, L.E. 2015 "Ballistic and hypervelocity impact and penetration", in "Handbook of Materials Structures, Properties, Processing and Performance", ed. L.E. Murr, pp. 801-862, (Berlin, Springer)
- Murr, L.E. 2015 "Explosive welding, forming, and powder consolidation", in "Handbook of Materials Structures, Properties, Processing and Performance", ed. L.E. Murr, pp. 863-889, (Berlin, Springer)
- Murr, L.E. 2015 "Materials in extreme environments", in "Handbook of Materials Structures, Properties, Processing and Performance", ed. L.E. Murr, pp. 985-998, (Berlin, Springer)
- Nadytko, B. 2015 "Electronic phases of substances: Phase transitions with change of electron and crystalline structure" *EPJ Web Conferences* 94 02022
- Nagayama, K. and Kubota, S. 2015 "Estimation of shock Hugoniot for unreacted high explosives by various Grüneisen functions" *Sci. Technol. Energ. Mater.* 76 81-86
- Nakajima, M. and Stevenson, D.J. 2015 "Melting and mixing states of the Earth's mantle after the Moon-forming impact" *Earth Planet. Sci. Letts* 427 286-295

- Navarro, P.F., Benson, D.J. and Nesterenko, V.F. 2015 "Nature of short, high-amplitude compressive stress pulses in a periodic dissipative laminate" *Phys. Rev. E* 92 062917
- Neel, C. and Chhabildas, L. 2015 "The Hugoniot and strength of Ultem 1000 polyetherimide" *J. Dyn. Behav. Mater.* 1 225-236
- Nellis, W.J. 2015 "Dynamic high pressure: Why it makes metallic fluid hydrogen" *J. Phys. Chem. Solids* 84 49-56
- Nellis, W.J. 2015 "The unusual magnetic fields of Uranus and Neptune" *Mod. Phys. Letts B* 29 1430018
- Nguyen, J.H., Akin, M.C., Chau, R., Fratanduono, D.E., Ambrose, W.P., Fatyanov, O.V., Asimow, P.D. and Holmes, N.C. 2015 "Reply to comment on 'Molybdenum sound velocity and shear modulus softening under shock compression'" *Phys. Rev. B* 92 026102
- Nian, W.M., Subramaniam, K.V.L. and Andreopoulos, Y. 2015 "Experimental investigation of blast-pressure attenuation by cellular concrete" *ACI Mater. J.* 112 21-27
- Nie, B.C., Li, J.C. and Zhang, H.Q. 2015 "Interaction between reflected shock and bubble in near-wall underwater explosion" *Procedia Engng* 126 344-348
- Nishimura, Y., Kitagawa, Y., Mori, Y., Hioki, T., Azuma, H., Motohiro, T., Komeda, O., Ishii, K., Hanayama, R. and Sekine, T. 2015 "Multilayered polycrystallization in single-crystal YSZ by laser-shock compression" *J. Phys. D: Appl. Phys.* 48 325305
- Nora, R., Theobald, W., Betti, R., Marshall, F.J., Michel, D.T., Seka, W., Yaakobi, B., Lafon, M., Stoeckl, C., Delettrez, J., Solodov, A.A., Casner, A., Reverdin, C., Ribeyre, X., Vallet, A., Peebles, J., Beg, F.N. and Wei, M.S. 2015 "Gigabar spherical shock generation on the OMEGA laser" *Phys. Rev. Letts* 114 045001
- Norman, G., Saitov, I., Stegailov, V. and Zhilyaev, P. 2015 "Ab initio calculation of shocked xenon reflectivity" *Phys. Rev. E* 91 023105
- Norman, G.E. and Saitov, I.M. 2015 "Brewster angle of shock-compressed xenon plasmas" *J. Phys.: Conf. Ser.* 653 012111
- Norman, G.E., Saitov, I.M. and Stegailov, V.V. 2015 "First-principles calculation of the reflectance of shock-compressed xenon" *J. Exper. Theor. Phys.* 120 894-904
- Nowakowski, A.F., Ballil, A. and Nicolleau, F.C.G.A. 2015 "Passage of a shock wave through inhomogeneous media and its impact on gas-bubble deformation" *Phys. Rev. E* 92 023028
- Oguri, Y., Kondo, K., Hasegawa, J. and Horioka, K. 2015 "Numerical analysis of the hydrodynamic behavior of ion-beam-heated uranium targets for equation-of-state studies under extreme conditions" *Energy Procedia* 71 244-251
- Oguri, R. and Ando, K. 2015 "Cloud cavitation induced by shock-bubble interaction in a viscoelastic solid" *J. Phys.: Conf. Ser.* 656 012032

- Ohfuji, H., Irifune, T., Litasov, K.D., Yamashita, T., Isobe, F., Afanasiev, V.P. and Pokhilenko, N.P. 2015 "Natural occurrence of pure nano-polycrystalline diamond from impact crater" *Scientific Reports* 5 doi: 10.1038/srep14702
- Ohtani, K. and Ogawa, T. 2015 "Micro-explosive-induced underwater shock wave propagation and reflection at the interface" *Sci. Technol. Energ. Mater.* 76 139-143
- Olney, K.L., Chiu, P.-H., Vairo, M.S.R., Higgins, A., Serge, M., Benson, D.J. and Nesterenko, V.F. 2015 "Influence of mesoscale properties on the mechanisms of plastic strain accommodation in plane strain dynamic deformation of concentric nickel-aluminum laminates" *J. Appl. Phys.* 117 044302
- Olney, K.L., Chiu, P.-H., Benson, D.J., Higgins, A., Serge, M. and Nesterenko, V.F. 2015 "Localized microjetting in the collapse of surface macrocavities" *Phys. Rev. E* 91 022405
- Ortega, A.L., Lombardini, M., Barton, P.T., Pullin, D.I. and Meiron, D.I. 2015 "Richtmyer–Meshkov instability for elastic–plastic solids in converging geometries" *J. Mech. Phys. Solids* 76 291-324
- Osinski, G.R., Bunch, T.E., Flemming, R.L., Buitenhuis, E. and Wittke, J.H. 2015 "Impact melt- and projectile-bearing ejecta at Barringer Crater, Arizona" *Earth Planet. Sci. Letts* 432 283-292
- Osipov, V.Y., Aleksenskiy, A.E., Takai, K. and Vul, A.Y. 2015 "Magnetic studies of a detonation nanodiamond with the surface modified by gadolinium ions" *Phys. Solid State* 57 2314-2319
- Padgett, D.A., Mazzoleni, A.P. and Faw, S.D. 2015 "Survey of shock-wave structures of smooth-particle granular flows" *Phys. Rev. E* 92 062209
- Pak, A., Dewald, E.L., Landen, O.L., Milovich, J., Strozzi, D.J., Hopkins, L.F.B., Bradley, D.K., Divol, L., Ho, D.D., MacKinnon, A.J., Meezan, N.B., Michel, P., Moody, J.D., Moore, A.S., Schneider, M.B., Town, R.P.J., Hsing, W.W. and Edwards, M.J. 2015 "Laser absorption, power transfer, and radiation symmetry during the first shock of inertial confinement fusion gas-filled hohlraum experiments" *Phys. Plasmas* 22 122701
- Palnichenko, A.V., Shakhrai, D.B., Avdonin, V.V., Vyaselev, O.M. and Khasanov, S.S. 2015 "Superconductivity of Al/Al<sub>2</sub>O<sub>3</sub> interface formed by shock-wave pressure" *Physica C* 512 6-11
- Pan, H., Hu, X. and Wu, Z. 2015 "Application backwards characteristics analysis method to dynamic response of metals under high pressure" *EPJ Web Conferences* 94 01007
- Pang, B., Jones, I.P., Millett, J.C.F., Whiteman, G., Bourne, N. and Chiu, Y.-L. 2015 "Radial stress release wave induced twinning in a tantalum single crystals" *Metall. Mater. Trans. A* 46 4522-4526

- Panova, A.N., Dolmatov, V.Y., Ishchenko, E.V., Tsapyuk, G.G., Bochechka, A.A., Veretennikova, M.V., Myllymäki, V. and Nikitin, E.V. 2015 "The influence of synthesis conditions on the surface state of detonation nanodiamonds" *J. Superhard Mater.* 37 202-210
- Park, H., Kwon, J., Lee, I. and Lee, C. 2015 "Shock-induced plasticity and fragmentation phenomena during alumina deposition in the vacuum kinetic spraying process" *Scripta mater.* 100 44-47
- Park, H.-S., Rudd, R.E., Cavallo, R.M., Barton, N.R., Arsenlis, A., Belof, J.L., Blobaum, K.J.M., El-dasher, B.S., Florando, J.N., Huntington, C.M., Maddox, B.R., May, M.J., Plechaty, C., Prisbrey, S.T., Remington, B.A., Wallace, R.J., Wehrenberg, C.E., Wilson, M.J., Comley, A.J., Giraldez, E., Nikroo, A., Farrell, M., Randall, G. and Gray III, G.T. 2015 "Grain-size-independent plastic flow at ultrahigh pressures and strain rates" *Phys. Rev. Letts* 114 065502
- Partom, Y. 2015 "Overstress and flowstress approaches to dynamic viscoplasticity" *EPJ Web Conferences* 94 04003
- Pecover, J.D. and Chittenden, J.P. 2015 "Instability growth for magnetized liner inertial fusion seeded by electro-thermal, electro-choric, and material strength effects" *Phys. Plasmas* 22 102701
- Peev, A.P., Kuzmin, S.V., Lysak, V.I., Kuzmin, E.V. and Dorodnikov, A.N. 2015 "Structure and properties of joints produced by ultrasound-assisted explosive welding" *Phys. Metals Metallog.* 116 817-822
- Peng, Q. and De, S. 2015 "A first-principles investigation of the equation of states and molecular 'weak spots' of HMX", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1148-1156, (Arlington, VA, Office of Naval Research)
- Peng, H., Pei, X.Y., Li, P., He, H.L. and Bai, J.S. 2015 "Micro-damage characteristics of incipient spall in high-purity copper (in Chinese)" *Acta Phys. Sinica* 64 216201
- Peralta, P., Loomis, E., Chen, Y., Brown, A., McDonald, R., Krishnan, K. and Lim, H. 2015 "Grain orientation effects on dynamic strength of fcc multicrystals at low shock pressures: A hydrodynamic instability study" *Philos. Mag. Letts* 95 67-76
- Pereira, J.M., Campos, J. and Lourenço, P.B. 2015 "Masonry infill walls under blast loading using confined underwater blast wave generators (WBWG)" *Engng Struct.* 92 69-83
- Perrier, A., Ecault, R., Touchard, F., Urriza, M.V., Baillargeat, J., Chocinski-Arnault, L. and Boustie, M. 2015 "Towards the development of laser shock test for mechanical characterisation of fibre/matrix interface in eco-composites" *Polymer Testing* 44 125-134
- Perry, J.I., Braithwaite, C.H., Taylor, N.E. and Jardine, A.P. 2015 "Behaviour of moist and saturated sand during shock and release" *Appl. Phys. Letts* 107 174102

- Peterson, J.L., Berzak-Hopkins, L.F., Jones, O.S. and Clark, D.S. 2015 "Differential ablator-fuel adiabat tuning in indirect-drive implosions" *Phys. Rev. E* 91 031101
- Peterson, N.R. and Sweitzer, J.C. 2015 "Composite material particle impact mitigation sleeve testing" *Procedia Engng* 103 475-481
- Petr, V. and Beggs, S. 2015 "Experimental studies of the matrix detonating cord charge", in "Dynamic Behavior of Materials", ed. B. Song, D. Casem and J. Kimberley, pp. 307-318, (Berlin, Springer)
- Petrov, Y.V. and Utkin, A.A. 2015 "Time dependence of the spall strength under nanosecond loading" *Tech. Phys.* 60 1162-1166
- Philpott, M.K., George, A., Whiteman, G., De'Ath, J. and Millett, J.C.F. 2015 "The application of line imaging velocimetry to provide high resolution spatially resolved velocity data in plate impact experiments" *Meas. Sci. Technol.* 26 125204
- Picard, A.J. 2015 "Development of ultra-fast shock temperature gauges" MPhil thesis, Univ. of Cambridge
- Pichot, V., Comet, M., Risse, B. and Spitzer, D. 2015 "Detonation of nanosized explosive: New mechanistic model for nanodiamond formation" *Diamond Related Mater.* 54 59-63
- Pickersgill, A.E., Osinski, G.R. and Flemming, R.L. 2015 "Shock effects in plagioclase feldspar from the Mistastin Lake impact structure, Canada" *Meteor. Planet. Sci.* 50 1546-1561
- Pineau, N., Soulard, L., Colombet, L., Carrard, T., Pelié, A., Gillet, P. and Clérouin, J. 2015 "Molecular dynamics simulations of shock compressed heterogeneous materials. 2: The graphite/diamond transition case for astrophysics " *J. Appl. Phys.* 117 115902
- Pineau, N., Bourasseau, E., Maillet, J.-B., Soulard, L. and Hébert, D. 2015 "Theoretical study of the porosity effects on the shock response of graphitic materials" *EPJ Web Conferences* 94 04037
- Pineau, N., Robert, G., Dozova, N., Geneste, G., Torrent, M. and Soulard, L. 2015 "Ab initio calculation of the equation of state of monocrystalline TATB with a DFT-D method", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1157-1165, (Arlington, VA, Office of Naval Research)
- Ping, S., Cai, L.C., Li, X.Z., Tao, T.J., Zhao, X.W., Wang, X.J. and Fang, M.L. 2015 "Sound velocity and phase transition for low porosity tin at high pressure (in Chinese)" *Acta Phys. Sinica* 64 106401
- Plume, G. and Rousseau, C.-E. 2015 "Systematic approach to using isentropic stress reverberation techniques in approximating equation of state" *Rev. Sci. Instrum.* 86 033908

- Pogorelko, V.V. and Mayer, A.E. 2015 "Propagation of shock waves and fracture in the aluminum-copper composite: Numerical simulation" J. Phys.: Conf. Ser. 653 012046
- Politzer, P. and Murray, J.S. 2015 "Some molecular/crystalline factors that affect the sensitivities of energetic materials: Molecular surface electrostatic potentials, lattice free space and maximum heat of detonation per unit volume" J. Molec. Modeling 21 doi: 10.1007/s00894-015-2578-4
- Poniaev, S.A., Bobashev, S.V., Zhukov, B.G., Kurakin, R.O., Sedov, A.I., Izotov, S.N., Kulakov, S.L. and Smirnova, M.N. 2015 "Small-size railgun of mm-size solid bodies for hypervelocity material testing" Acta Astronaut. 109 162-165
- Popova, T.V., Mayer, A.E. and Khishchenko, K.V. 2015 "Numerical investigations of shock wave propagation in PMMA" J. Phys.: Conf. Ser. 653 012045
- Prasad, S. and Basu, S. 2015 "Numerical modelling of shock-induced chemical reactions (SICR) in reactive powder mixtures using smoothed particle hydrodynamics (SPH)" Model. Simul. Mater. Sci. Engng 23 075005
- Prasad, A.V.S.S. and Basu, S. 2015 "Numerical study of mechanisms to minimize failure in a metal with soft backing under plane shock loading" Proc. R. Soc. A 471 20150285
- Prasanthi, T.N., Sudha, C., Parida, P.K., Dasgupta, A. and Saroja, S. 2015 "Prediction and confirmation of phases formed in the diffusion zone of Ti-5Ta-2Nb/304L stainless steel explosive clads" Metall. Mater. Trans. A 46 1519-1534
- Prasanthi, T.N., Sudha, C., Murugesan, S., Paul, V.T. and Saroja, S. 2015 "Reverse transformation of deformation-induced phases and associated changes in the microstructure of explosively clad Ti-5Ta-2Nb and 304L stainless steel" Metall. Mater. Trans. A 46 4429-4435
- Presles, H.N., Khasainov, B.A., Vidal, P., Montassier, V., Ermolaev, B.A. and Sulimov, A.A. 2015 "Phenomenological description of the spontaneous detonation mechanism in moistened ammonium nitrate and sodium dichloroisocyanurate mixture", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 407-417, (Arlington, VA, Office of Naval Research)
- Proud, W.G., Williamson, D.M., Field, J.E. and Walley, S.M. 2015 "Diagnostic techniques in deflagration and detonation studies" Chem. Central J. 9 10.1186/s13065-015-0128-x
- Putzar, R. and Schaefer, F. 2015 "EMI's twin-gun concept for a new light-gas gun type hypervelocity accelerator" Procedia Engng 103 421-426
- Qi, M.L., Yao, Y., Xie, B.X., Ran, X.X., Ye, W., Fan, D. and Li, P. 2015 "Nucleation and growth of damage in polycrystalline aluminum under dynamic tensile loading" AIP Advances 5 037116
- Qi, T., Millot, M., Kraus, R.G., Root, S. and Hamel, S. 2015 "Optical and transport properties of dense liquid silica" Phys. Plasmas 22 062706

- Rahimzadeh, T., Arruda, E.M. and Thouless, M.D. 2015 "Design of armor for protection against blast and impact" *J. Mech. Phys. Solids* 85 98-111
- Rai, N.K. and Udaykumar, H.S. 2015 "Mesoscale simulation of reactive pressed energetic materials under shock loading" *J. Appl. Phys.* 118 245905
- Rajesh, C.A., Parrikar, P.N., Abotula, S. and Shukla, A. 2015 "Effect of boundary conditions on the thermomechanical response of Hastelloy X plates subjected to shock loading", in "Dynamic Behavior of Materials", ed. B. Song, D. Casem and J. Kimberley, pp. 301-305, (Berlin, Springer)
- Ram, O. and Sadot, O. 2015 "Analysis of the pressure buildup behind rigid porous media impinged by shock waves in time and frequency domains" *J. Fluid Mech.* 779 842-858
- Ramos, K.J., Cawkwell, M.J., Bolme, C.A. and Hooks, D.E. 2015 "Effects of orientation, pressure/strain rate, and microstructure on the quasistatic deformation and shock response of single crystal explosives", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1562-1572, (Arlington, VA, Office of Naval Research)
- Rapp, L., Haberl, B., Pickard, C.J., Bradby, J.E., Gamaly, E.G., Williams, J.S. and Rode, A.V. 2015 "Experimental evidence of new tetragonal polymorphs of silicon formed through ultrafast laser-induced confined microexplosion" *Nature Commun.* 6 doi: 10.1038/ncomms8555
- Rauls, M.B. and Ravichandran, G. 2015 "Shock wave structure in particulate composites" *Procedia Engng* 103 515-521
- Ray, N., Jagadeesh, G. and Suwas, S. 2015 "Response of shock wave deformation in AA5086 aluminum alloy" *Mater. Sci. Engng A* 622 219-227
- Razorenov, S.V. and Garkushin, G.V. 2015 "Hardening of metals and alloys during shock compression" *Tech. Phys.* 60 1021-1026
- Reddy, M.H.L. and Alam, M. 2015 "Plane shock waves and Haff's law in a granular gas" *J. Fluid Mech.* 779 R2
- Reddy, K.P.J., Jagadeesh, G., Jayaram, V., Reddy, B.H., Madhu, V. and Reddy, C.J.R. 2015 "Shock interaction studies on glass fibre-reinforced epoxy matrix composites", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 127-134, (Berlin, Springer)
- Reed, B.C. 2015 "The Physics of the Manhattan Project" (Berlin, Springer)
- Reinhart, W.D., Asay, J.R., Alexander, C.S., Chhabildas, L.C. and Jensen, B.J. 2015 "Flow strength of 6061-T6 aluminum in the solid, mixed-phase, liquid regions" *J. Dyn. Behav. Mater.* 1 275-289
- Remington, B.A., Rudd, R.E. and Wark, J.S. 2015 "From microjoules to megajoules and kilobars to gigabars: Probing matter at extreme states of deformation" *Phys. Plasmas* 22 090501



- Ren, X., Zhao, R., Li, Q.J. and Cheng, X.M. 2015 "Study on blasting safety technology applied in Karst limestone mine" *Procedia Engng* 84 873-878
- Resnyansky, A.D. and Weckert, S.A. 2015 "Dynamic analysis of a plate loaded by explosively driven sand", in "Dynamic Behavior of Materials", ed. B. Song, D. Casem and J. Kimberley, pp. 357-368, (Berlin, Springer)
- Rodriguez, G., Gilbertson, S.M., Vincent, S.W. and Jackson, S.I. 2015 "Fiber Bragg grating sensors and their sensitivity to changes in detonation velocity across interfaces", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 264-272, (Arlington, VA, Office of Naval Research)
- Romick, C.M. and Aslam, T.D. 2015 "Two-dimensional detonation propagation using shock-fitting", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 380-389, (Arlington, VA, Office of Naval Research)
- Root, S. and Tuttle, L. 2015 "Analysis of the equation of state and initiation model for TATB-based LX-17", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 485-493, (Arlington, VA, Office of Naval Research)
- Root, S., Mattsson, T.R., Cochrane, K., Lemke, R.W. and Knudson, M.D. 2015 "Shock compression response of poly(4-methyl-1-pentene) plastic to 985 GPa" *J. Appl. Phys.* 118 205901
- Root, S., Shulenburg, L., Lemke, R.W., Dolan, D.H., Mattsson, T.R. and Desjarlais, M.P. 2015 "Shock response of phase transitions of MgO at planetary impact conditions" *Phys. Rev. Letts* 115 198501
- Rosnitskiy, P.B., Yuldashev, P.V. and Khokhlova, V.A. 2015 "Effect of the angular aperture of medical ultrasound transducers on the parameters of nonlinear ultrasound field with shocks at the focus" *Acoust. Phys.* 61 301-307
- Rozanov, V.B. and Vergunova, G.A. 2015 "Simple model of the indirect compression of targets under conditions close to the National Ignition Facility at an energy of 1.5 MJ" *J. Exper. Theor. Phys.* 121 747-757
- Rubin, A.E. 2015 "Maskelynite in asteroidal, lunar and planetary basaltic meteorites: An indicator of shock pressure during impact ejection from their parent bodies" *Icarus* 257 221-229
- Ruestes, C.J., Bringa, E.M., Rudd, R.E., Remington, B.A., Remington, T.P. and Meyers, M.A. 2015 "Probing the character of ultra-fast dislocations" *Scientific Reports* 5 doi: 10.1038/srep16892
- Rzhavtsev, E.A. and Gutkin, M.Y. 2015 "The dynamics of dislocation wall generation in metals and alloys under shock loading" *Scripta mater.* 100 102-105

- Sadot, O., Ram, O., Ben-Dor, G., Levy, A., Golan, G., Ran, E. and Aizik, F. 2015 "A simple constitutive model for predicting pressure histories developed behind rigid porous samples impinged by shock waves", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 1541-1546, (Berlin, Springer)
- Saint-Amans, C., Hébert, P., Doucet, M. and de Resseguier, T. 2015 "In situ Raman spectroscopy and high-speed photography of a shocked TATB based explosive" J. Appl. Phys. 117 023102, 109902
- Sakakura, M., Shimotsuma, Y., Fukuda, N. and Miura, K. 2015 "Transient strain distributions during femtosecond laser-induced deformation inside LiF and MgO single crystals" J. Appl. Phys. 118 023106
- Sakamura, Y., Sugimoto, T. and Nakayama, K. 2015 "Particle-based simulation of shock-induced deformation of elastic bodies", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 939-944, (Berlin, Springer)
- Saleh, M. and Edwards, L. 2015 "Evaluation of soil and fluid structure interaction in blast modelling of the flying plate test" Comput. Struct. 151 96-114
- Salyer, T.R. 2015 "A spectrally encoded imaging diagnostic for shock and detonation physics experiments", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 227-236, (Arlington, VA, Office of Naval Research)
- Samuelraj, I.O. and Jagadeesh, G. 2015 "Development of a liquid blast tube facility for material testing", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 89-94, (Berlin, Springer)
- Sandusky, H.W., Granholm, R.H. and Felts, J.E. 2015 "Survivability of explosives with dynamically collapsing cavities", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 34-43, (Arlington, VA, Office of Naval Research)
- Santo, K.P. and Berkowitz, M.L. 2015 "Shock wave induced collapse of arrays of nanobubbles located next to a lipid membrane: Coarse-grained computer simulations" J. Phys. Chem. B 119 8879-8889
- Satonkina, N.P. 2015 "The dynamics of carbon nanostructures at detonation of condensed high explosives" J. Appl. Phys. 118 245901
- Saveleva, N., Bayandin, Y. and Naimark, O. 2015 "Wide-range simulation of elastoplastic wave fronts and failure of solids under high-speed loading" AIP Conf. Proc. 1683 020201
- Saveleva, N., Bayandin, Y., Savinykh, A.S., Garkushin, G.V., Lyapunova, E.A., Razorenov, S.V. and Naimark, O. 2015 "Peculiarities of the elastic-plastic transition and failure in polycrystalline vanadium under shock-wave loading conditions" Tech. Phys. Letts 41 579-582
- Savinykh, A.S., Garkushin, G.V., Razorenov, S.V. and Rumyantsev, V.I. 2015 "Dynamic strength of reaction-sintered boron carbide ceramic" Tech. Phys. 60 863-868

- Savinykh, A.S., Garkushin, G.V., Razorenov, S.V., Wolf, S. and Kruger, L. 2015 "Influence of the temperature-induced martensitic-austenitic transformation on the strength properties of high-alloy steels under dynamic loading" *Combust. Explos. Shock Waves* 51 124-129
- Saxena, A.K., Kaushik, T.C. and Gupta, S.C. 2015 "Shock loading characteristics of zirconium and titanium metals using dual beam velocimeter" *J. Appl. Phys.* 118 075904
- Schlothauer, T., Schimpf, C., Brendler, E., Keller, K., Kroke, E. and Heide, G. 2015 "Halide based shock-wave treatment of fluid-rich natural phases" *J. Phys.: Conf. Ser.* 653 012033
- Schmitz, H. and Robinson, A.P.L. 2015 "Investigation of jet formation from the blast wave of a locally heated laser-irradiated target" *High Energy Density Phys.* 15 82-92
- Schoch, S. and Nikiforakis, N. 2015 "Numerical modelling of underwater detonation of non-ideal condensed-phase explosives" *Phys. Fluids* 27 016101
- Schoch, S. and Nikofarakis, N. 2015 "Propagation of detonation waves in ANFO confined by high sound-speed materials", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1031-1041, (Arlington, VA, Office of Naval Research)
- Schropp, A., Hoppe, R., Meier, V., Patommel, J., Seiboth, F., Ping, Y., Hicks, D.G., Beckwith, M.A., Collins, G.W., Higginbotham, A., Wark, J.S., Lee, H.J., Nagler, B., Hastings, J.B. and Schroer, C.G. 2015 "Imaging shock waves in diamond with both high temporal and spatial resolution at an XFEL" *Scientific Reports* 5 doi: 10.1038/srep11089
- Schulz, J.C., Gottiparthi, K.C. and Menon, S. 2015 "Uncertainty quantification of bacterial aerosol neutralization in shock heated gases" *Shock Waves* 25 77-90
- Schumaker, M.G., Borg, J.P., Kennedy, G. and Thadhani, N.N. 2015 "Mesoscale simulations of dry sand", in "Dynamic Behavior of Materials", ed. B. Song, D. Casem and J. Kimberley, pp. 379-388, (Berlin, Springer)
- Scripka, D., LeCroy, G., Summers, C.J. and Thadhani, N.N. 2015 "Spectral response of multilayer optical structures to dynamic mechanical loading" *Appl. Phys. Letts* 106 201906
- Sekine, T., Kimura, T., Kobayashi, T. and Mashimo, T. 2015 "Dynamic water loss of antigorite by impact process" *Icarus* 250 1-6
- Shakh-ray, D.V., Avdonin, V.V., Palnichenko, A.V. and Vyaselev, O.M. 2015 "Superconductivity of Al/Al<sub>2</sub>O<sub>3</sub> interface formed under shock-wave conditions" *J. Phys.: Conf. Ser.* 653 012039
- Shang, H., Zhao, F., Ji, G. and Fu, H. 2015 "Mesoscale numerical modeling of plastic bonded explosives under shock loading" *EPJ Web Conferences* 94 04020

- Shen, C.J., Lu, G., Yu, T.X. and Ruan, D. 2015 "Dynamic response of a cellular block with varying cross-section" *Int. J. Impact Engng* 79 53-64
- Sheppard, D., Mazevet, S., Cherne, F.J., Albers, R.C., Kadau, K., Germann, T.C., Kress, J.D. and Collins, L.A. 2015 "Dynamical and transport properties of liquid gallium at high pressures" *Phys. Rev. E* 91 063101
- Shilova, O.A., Frank-Kamenetskaya, O.V. and Korobkova, A.I. 2015 "On the influence of detonation nanodiamond dopants on phase content and hydration features of Portland cement materials" *Glass Phys. Chem.* 41 206-211
- Shimamura, K., Ofosu, J.A., Komunasaki, K. and Koizumi, H. 2015 "Predicting propagation limits of laser-supported detonation by Hugoniot analysis" *Jpn. J. Appl. Phys.* 54 016201
- Shimamura, K., Misawa, M., Li, Y., Kalia, R.K., Nakano, A., Shimojo, F. and Vashishta, P. 2015 "A crossover in anisotropic nanomechanochemistry of van der Waals crystals" *Appl. Phys. Letts* 107 231903
- Shimokawa, H. 2015 "Development of extracorporeal shock waves therapy for the treatment of ischemic cardiovascular diseases", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 895, (Berlin, Springer)
- Short, M. and Jackson, S.I. 2015 "Dynamics of high sound-speed metal confinners driven by non-ideal high-explosive detonation" *Combust. Flame* 162 1857-1867
- Shtertser, A., Zlobin, B. and Stoyanovskii, O. 2015 "Metal explosion chambers and their application" *Appl. Mech. Mater.* 788 306-312
- Shtertser, A.A. and Zlobin, B.S. 2015 "Flows, strains, and the formation of joints in oblique collision of metal plates" *J. Appl. Mech. Tech. Phys.* 56 927-935
- Shui, M., Chu, G.-B., Xin, J.-T., Wu, Y.-C., Zhu, B., He, W.-H., Xi, T. and Gu, Y.-Q. 2015 "Laser-driven flier impact experiments at the SG-III prototype laser facility" *Chinese Phys. B* 24 094701
- Shukla, R.K. 2015 "Numerical investigation of shock-induced bubble collapse near a rigid wall" *Procedia IUTAM* 15 158-164
- Shussman, T. and Heizler, S.I. 2015 "Full self-similar solutions of the subsonic radiative heat equations" *Phys. Plasmas* 22 082109
- Sichani, M.M. and Spearot, D.E. 2015 "A molecular dynamics study of the role of grain size and orientation on compression of nanocrystalline copper during shock" *Comput. Mater. Sci.* 108 226-232
- Silvestrov, V.V., Bordzilovskii, S.A., Karakhanov, S.M. and Plastinin, A.V. 2015 "Temperature of the detonation front of an emulsion explosive" *Combust. Explos. Shock Waves* 51 116-123
- Sirmas, N. and Radulescu, M.I. 2015 "Evolution and stability of shock waves in dissipative gases characterized by activated inelastic collisions" *Phys. Rev. E* 91 023003

- Sjostrom, T. and Crockett, S. 2015 "Orbital-free extension to Kohn-Sham density functional theory equation of state calculations: Application to silicon dioxide" *Phys. Rev. B* 92 115104
- Skripnyak, V.V., Skripnyak, E.G., Skripnyak, V.A., Vaganova, I.K., Bragov, A.M., Lomunov, A.K. and Igumnov, L.A. 2015 "Multiscale simulation of porous quasi-brittle ceramics fracture" *Appl. Mech. Mater.* 756 196-204
- Skublov, S.G., Guseva, N.S., Presnyakov, S.L., Li, X.-H., Marin, Y.B., Sergeev, S.A., Berezhnaya, N.G., Tyuleneva, N.V. and Alekseev, V.I. 2015 "U-Pb age of zircon and the history of impact transformations of the Chelyabinsk meteorite" *Dokl. Earth Sci.* 462 586-591
- Slizberg, Y.R. and Chantawansri, T.L. 2015 "Structural changes in lipid vesicles generated by the shock waves: Dissipative particle dynamics simulation", in "Dynamic Behavior of Materials", ed. B. Song, D. Casem and J. Kimberley, pp. 121-126, (Berlin, Springer)
- Slobodkin, A., Gavrilov, S., Ionov, V. and Iliyina, Y. 2015 "Spore-forming thermophilic bacterium within artificial meteorite survives entry into the Earth's atmosphere on FOTON-M4 satellite landing module" *Plos One* 10 e0132611
- Smalyuk, V.A., Robey, H.F., Döppner, T., Jones, O.S., Milovich, J.L., Bachmann, B., Baker, K.L., Hopkins, L.F.B., Bond, E., Callahan, D.A., Casey, D.T., Celliers, P.M., Cerjan, C., Clark, D.S., Dixit, S.N., Edwards, M.J., Giraldez, E., Haan, S.W., Hamza, A.V., Hohenberger, M., Hoover, D., Hurricane, O.A., Jancaitis, K.S., Kroll, J.J., Lafortune, K.N., Landen, O.L., MacGowan, B.J., MacPhee, A.G., Nikroo, A., Pak, A., Patel, P.K., Peterson, J.L., Weber, C.E., Widmayer, C.C. and Yeaman, C. 2015 "First results of radiation-driven, layered deuterium-tritium implosions with a 3-shock adiabat-shaped drive at the National Ignition Facility" *Phys. Plasmas* 22 080703
- Smirnov, E.B., Averin, A.N., Loboiko, B.G., Kostitsyn, O.V., Belenovskiy, Y.A., Lebedev, A.V., Scherbakov, V.N., Prosvirnin, K.M., Kiselev, A.N., Eganov, K.V., Volkov, V.M. and Kozel, V.V. 2015 "Shock-to-detonation transition in porous low-sensitivity high explosives", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 729-733, (Arlington, VA, Office of Naval Research)
- Smirnov, E.B., Averin, A.N., Loboiko, B.G., Kostitsyn, O.V., Belenovskiy, Y.A., Lebedev, A.V., Scherbakov, V.N., Prosvirnin, K.M., Kiselev, A.N., Eganov, K.V., Volkov, V.M. and Kozel, V.V. 2015 "Shock compressibility of low-sensitive high explosive of different initial porosity", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 757-761, (Arlington, VA, Office of Naval Research)

- Sollier, A., Hébert, P., Bouyer, V., Doucet, M., Letremy, R., Leborgne, X., Decaris, L., Sorin, R., Manczur, P., Carion, N., Dattelbaum, D.M., Sheffield, S.A. and Gustavson, R.L. 2015 "Influence of detonation front curvature on the response of embedded electromagnetic particle velocity gauges", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 13-23, (Arlington, VA, Office of Naval Research)
- Son, E.E., Dyrenkov, A.V., Kyung, O., Son, K.E. and Velikodny, V.Y. 2015 "Shock wave in a gas-liquid bubble medium" *High Temp.* 53 882-886
- Song, H.J., Li, H., Huang, F.L., Zhang, S.D. and Hong, T. 2015 "High-fidelity Hugoniot of alpha phase RDX solid from high-quality force field with thermal, zero-point vibration, and anharmonic effects" *Chinese Phys. Letts* 32 080501
- Song, W.-D., Lv, Y.-T., Wang, C. and Li, J.-Q. 2015 "Investigation on plasma generated during hypervelocity impact at different impact velocities and angles" *Phys. Plasmas* 22 123519
- Song, L., Xu, X.J., You, L., Liang, Y.F., Wang, Y.L. and Lin, J.P. 2015 "Ordered  $\alpha_2$  to  $\omega_0$  phase transformations in high Nb-containing TiAl alloys" *Acta mater.* 91 330-339
- Song, L., Xu, X.J., You, L., Liang, Y.F. and Lin, J.P. 2015 "Ordered omega phase transformations in Ti-45Al-8.5Nb-0.2B alloy" *Intermetallics* 65 22-28
- Souers, P.C. and Minich, R. 2015 "Cylinder test correction for copper work hardening and spall" *Propell. Explos. Pyrotech.* 40 238-245
- Soulard, L., Pineau, N., Clérouin, J. and Colombet, L. 2015 "Molecular dynamics simulations of shock compressed heterogeneous materials. 1: The porous case" *J. Appl. Phys.* 117 115901
- Springer, H.K., Vandersall, K.S., Tarver, C.M. and Souers, P.C. 2015 "Investigating shock initiation and detonation in powder HMX with reactive mesoscale simulations", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1182-1189, (Arlington, VA, Office of Naval Research)
- Srivastava, N., Upadhyay, A., Kumar, S., Singh, J. and Agarwal, A. 2015 "Explosive welding of SS304 and Al6061 using copper as interlayer: Development of trial methodology and its optimisation" *Mater. Sci. Forum* 830 306-309
- Stagno, V., Bindi, L., Park, C.Y., Tkachev, S., Prakapenka, V.B., Mao, H.K., Hemley, R.J., Steinhardt, P.J. and Fei, T.W. 2015 "Quasicrystals at extreme conditions: The role of pressure in stabilizing icosahedral  $\text{Al}_{63}\text{Cu}_{24}\text{Fe}_{13}$  at high temperature" *Amer. Mineralogist* 100 2412-2418
- Starkenbergh, J. 2015 "Shock-pressure and pseudo-entropic approaches to explosive initiation modeling", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 908-916, (Arlington, VA, Office of Naval Research)

- Stevens, D.E. and Murphy, M.J. 2015 "Flash X-ray resolved trajectory of discrete particles from embedded explosive detonation", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 348-355, (Arlington, VA, Office of Naval Research)
- Stiel, L.I. and Baker, E.L. 2015 "Relationships for the thermodynamic properties of carbon phases at elevated temperatures and pressures", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1622-1630, (Arlington, VA, Office of Naval Research)
- Stowe, D., Kupchella, R. and Cogar, J. 2015 "Improved artificial viscosity in finite element method (FEM) for hypervelocity impact calculations" *Procedia Engng* 103 593-600
- Stukhlyak, P.D., Buketov, A.V., Panin, S.V., Maruschak, P.O., Moroz, K.M., Poltaranin, M.A., Vukherer, T., Kornienko, L.A. and Lyukshin, B.A. 2015 "Structural fracture scales in shock-loaded epoxy composites" *Phys. Mesomech.* 18 58-74
- Suceska, M., Serene, C.H.Y. and Ang, H.-G. 2015 "Can the accuracy of BKW EOS be improved?", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1247-1256, (Arlington, VA, Office of Naval Research)
- Sugahara, H. and Mimura, K. 2015 "Peptide synthesis triggered by comet impacts: A possible method for peptide delivery to the early Earth and icy satellites" *Icarus* 257 103-112
- Sutherland, G.T., Benjamin, R.A., Zellner, M.B. and Sandusky, H.W. 2015 "Additional calibration data for the large scale gap test and expanded large scale gap test", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 24-33, (Arlington, VA, Office of Naval Research)
- Sychev, A.I. 2015 "Influence of the initial pressure in bubble media on the detonation wave parameters" *Tech. Phys.* 60 603-606
- Takayama, K., Yamamoto, H. and Abe, A. 2015 "Underwater shock/bubble interaction and its application to biology and medicine", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 861-868, (Berlin, Springer)
- Tamagawa, M., Morimoto, K. and Yagyu, K. 2015 "Development of drug delivery system capsules including gas bubbles by shock waves and their applications", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 871-872, (Berlin, Springer)
- Tan, D.Y., Lee, T.L., Khong, J.C., Connolley, T., Fezzaa, K. and Mi, J.W. 2015 "High-speed synchrotron X-ray imaging studies of the ultrasound shockwave and enhanced flow during metal solidification processes" *Metall. Mater. Trans. A* 46 2851-2861

- Tang, E.L., Shi, X.H., Zhang, Q.M., Wang, M., Wang, D., Xiang, S.H., Liu, S.H., Xia, J., He, L.P. and Yan, Y.F. 2015 "Characterization of light flash signatures using optical-fiber pyrometer detectors during hypervelocity impact" *Int. J. Appl. Electromagnetics Mechanics* 47 513-521
- Tang, E.L., Xu, M.Y., Zhang, Q.M., Shi, X.H., Wang, M., Wang, D., Xiang, S.H., Xia, J., Han, Y.F., Zhang, L.J., Wu, J., Zhang, S. and Yuan, J.F. 2015 "Spectral analysis of the light flash produced by a natural dolomite plate under strong shock" *Plasma Sci. Technol.* 17 409-414
- Tang, E.L., Zhang, L.J., Zhang, Q.M., Shi, X.H., Wang, M., Wang, D., Xiang, S.H., Xia, J., Han, Y.F., Xu, M.Y., Wu, J., Zhang, S. and Yuan, J.F. 2015 "Experimental study on light flash radiant intensity generated by strong shock 2A12 aluminum plate" *Plasma Sci. Technol.* 17 529-533
- Tarver, C.M., Christensen, J.S., McMullen, K.J. and Chidester, S.K. 2015 "Overcoming LX-17 failure diameter size by high pressure shock initiation using ultra fast, thin, small diameter flyer plates", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 620-628, (Arlington, VA, Office of Naval Research)
- Taylor, D.E. 2015 "Shock compression of boron carbide: A quantum mechanical analysis" *J. Amer. Ceram. Soc.* 98 3308-3318
- Temporal, M., Canaud, B., Garbett, W.J. and Ramis, R. 2015 "Uniformity of spherical shock wave dynamically stabilized by two successive laser profiles in direct-drive inertial confinement fusion implosions" *Phys. Plasmas* 22 102709
- Ten, K.A., Titov, V.M., Pruel, E.R., Kashkarov, A.O., Tolochko, B.P., Aminov, Y.A., Loboyko, B.G., Muzyrya, A.K. and Smirnov, E.B. 2015 "Carbon condensation in detonation of high explosives", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 369-374, (Arlington, VA, Office of Naval Research)
- Teowee, G., Solis, H., Papillon, B.E. and Ibarra, R. 2015 "Effect of dynamic pressure on electronic detonator timing", in "FragBlast 11: 11th Int. Symp. on Rock Fragmentation by Blasting", ed. A.T. Spathis, D.P. Gribble, A.C. Torrance and T.N. Little, pp. 575-578, (Sydney, Australia, The Australian Institute of Mining and Metallurgy)
- Texler, B. and Zumbun, K. 2015 "Entropy criteria and stability of extreme shocks: A remark on a paper of Leger and Vasseur" *Proc. Amer. Math. Soc.* 143 749-754
- Thiagarajan, G., Kadambi, A.V., Robert, S. and Johnson, C.F. 2015 "Experimental and finite element analysis of doubly reinforced concrete slabs subjected to blast loads" *Int. J. Impact Engng* 75 162-173
- Thurber, A. and Bayandor, J. 2015 "On the fluidic response of structures in hypervelocity impacts" *Trans. ASME: J. Fluids Engng* 137 041101



- Tikoo, S.M., Gattacceca, J., Swanson-Hysell, N.L., Weiss, B.P., Suavet, C. and Cournède, C. 2015 "Preservation and detectability of shock-induced magnetization" *J. Geophys. Res.: Planets* 120 1461-1475
- Tringe, J.W., Kane, R.J., Vandersall, K.S., Converse, M.C., Garcia, F. and Tarver, C.M. 2015 "Microwave interferometry for understanding deflagration-to-detonation and shock-to-detonation transitions in porous explosives", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 284-291, (Arlington, VA, Office of Naval Research)
- Tubman, N.M., Liberatore, E., Pierleoni, C., Holzmann, M. and Ceperley, D.M. 2015 "Molecular-atomic transition along the deuterium Hugoniot curve with coupled electron-ion Monte Carlo simulations" *Phys. Rev. Letts* 115 045301
- Tuttle, L., Root, S., Schmitt, B. and Harstad, E. 2015 "Requirements for simulating the transmitted wave profile through metal barriers", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1232-1240, (Arlington, VA, Office of Naval Research)
- Ueda, H. and Abe, A. 2015 "Study on excessive pressure of underwater shock wave generated in confined space", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 107-112, (Berlin, Springer)
- Uhlig, W.C. and Heine, A. 2015 "Electromagnetic diagnostic techniques for hypervelocity projectile detection, velocity measurement, and size characterization: Theoretical concept and first experimental test" *J. Appl. Phys.* 118 184901
- Upadhyay, A., Sherpa, B.B., Kumar, S., Srivastav, N., Kumar, P.D. and Agarwal, A. 2015 "Experimental investigation and microstructure study of interface of explosive welded SS304 and AA6061 plates" *Mater. Sci. Forum* 830 261-264
- Utkin, A. and Mochalova, V. 2015 "Detonation wave parameters of PETN and CL-20", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 471-476, (Arlington, VA, Office of Naval Research)
- Utkin, A.V., Mochalova, V.M., Torunov, S.I. and Koldunov, S.A. 2015 "Instability of a detonation waves in nitromethane and FEFO" *Combust. Explos. Shock Waves* 51 476-481
- Uvarov, S.V., Bannikova, I.A. and Naimark, O.B. 2015 "Pulse loading of glycerol by electric explosion of wire" *J. Phys. Conf. Ser.* 653 012034
- Vandersall, K.S., Garcia, F., Fried, L.E. and Tarver, C.M. 2015 "Double shock experiments and reactive flow modeling of high pressure LX-17 detonation reaction product states", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 255-263, (Arlington, VA, Office of Naval Research)

- Vandersall, K.S., Garcia, F., Tarver, C.M. and Fried, L.E. 2015 "Shock desensitization experiments and reactive flow modeling of self-sustaining LX-17 detonation waves", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 333-340, (Arlington, VA, Office of Naval Research)
- Vasilev, A.A. 2015 "Some aspects of recording and interpretation of rotating detonation waves" *Combust. Explos. Shock Waves* 51 710-716
- Vasiliev, O.O., Muratov, V.B., Kulikov, L.M., Garbuz, V.V. and Duda, T.I. 2015 "Special features of the heat capacity of detonation nanocrystalline diamond" *J. Superhard Mater.* 37 388-393
- Vasu, A. and Grandhi, R.V. 2015 "Impact of plasticity generated by Rayleigh waves on the residual stress behavior of structural components subjected to laser peening" *Int. J. Struct. Integrity* 6 107-123
- Venkataramudu, B., Gautam, P.C., Paman, A., Madhu, V. and Gogia, A.K. 2015 "Dynamic properties of RHA steel under planar shock loading using explosive driven plate impact system" *Defence Sci. J.* 65 196-202
- Venugopalan, S. 2015 "Demystifying Explosives: Concepts in High Energy Materials" (Amsterdam, Elsevier)
- Verreault, J. 2015 "Analytical and numerical description of the PELE fragmentation upon impact with thin target plates" *Int. J. Impact Engng* 76 196-206
- Vettegren, V.I., Kuksenko, V.S., Shcherbakov, I.p. and Mamalimov, R.I. 2015 "Quartz structure transformation under a shock wave" *Phys. Solid State* 57 2458-2470
- Veveakis, E. and Regenauer-Lieb, K. 2015 "Cnoidal waves in solids" *J. Mech. Phys. Solids* 78 231-248
- Victoria, R. and Yulia, I. 2015 "The evolution equations of shock deformation problems with plane surfaces of discontinuities in elastic inhomogeneous mediums" *Appl. Mech. Mater.* 756 459-464
- Vignjevic, R., Hughes, K., De Vuyst, T., Djordjevic, N., Campbell, J.C., Stojkovic, M., Gulavani, O. and Hiermaier, S. 2015 "Lagrangian analysis led design of a shock recovery plate impact experiment" *Int. J. Impact Engng* 77 16-29
- Vincent, S.W., Jackson, S.I., Chiquete, C. and Short, M. 2015 "The geometric scaling of IMX-104 explosive: Detonation velocity versus charge size for cylindrical rate sticks and slab tests", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 534-543, (Arlington, VA, Office of Naval Research)
- Vivek, A., Hansen, S., Benzing, J., He, M. and Daehn, G. 2015 "Impact welding of aluminum to copper and stainless steel by vaporizing foil actuator: Effect of heat treatment cycles on mechanical properties and microstructure" *Metall. Mater. Trans. A* 46 4548-4558
- Vogler, T.J. 2015 "Shock wave perturbation decay in granular materials" *J. Dyn. Behav. Mater.* 1 370-387

- Vorozhtsov, S.A., Eskin, D.G., Tamayo, J., Vorozhtsov, A.B., Promakhov, V.V., Averin, A.A. and Khrustalyov, A.P. 2015 "The application of external fields to the manufacturing of dense composites master alloys and aluminum-based nanocomposites" *Metall. Mater. Trans. A* 46 2870-2875
- Voznyakovskii, A.P., Smirnov, A.V., Fedorov, B.A., Khoreva, A.K. and Shumilov, F.A. 2015 "Geometrical characteristics of detonation diamond particles by the data of small-angle X-ray scattering" *J. Superhard Mater.* 37 357-362
- Wagner, J.L., Kearney, S.P., Beresh, S.J., DeMauro, E.P. and Pruett, B.O. 2015 "Flash X-ray measurements on the shock-induced dispersal of a dense particle curtain" *Exper. Fluids* 56 doi: 10.1007/s00348-015-2087-3
- Walenta, Z.A. and Slowicka, A.M. 2015 "Structure of shock waves in complex molecular liquids", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 1437-1441, (Berlin, Springer)
- Walker, J.D., Chocron, S., Waite, J.H. and Brockwell, T. 2015 "The vaporization threshold: Hypervelocity impacts of ice grains into a titanium Cassini spacecraft instrument chamber" *Procedia Engng* 103 628-635
- Wang, L., E, J.C., Cai, Y., Zhao, F., Fan, D. and Luo, S.N. 2015 "Shock-induced deformation of nanocrystalline aluminum: Characterization with orientation mapping and selected area electron diffraction" *J. Appl. Phys.* 117 084301
- Wang, B., Luo, X., Wang, B., Zhao, S. and Xie, F. 2015 "Microstructure and its formation mechanism in the interface of Ti/NiCr explosive cladding bar" *J. Mater. Engng Perform.* 24 1050-1058
- Wang, X., Yang, D., Wu, J. and Luo, X. 2015 "Interaction of a weak shock wave with a discontinuous heavy-gas cylinder" *Phys. Fluids* 27 064104
- Wang, Z., Liang, L. and Lou, J. 2015 "Analysis on formulas of concrete plate under contact explosion" *EPJ Web Conferences* 94 04057
- Wang, G.Y., Peng, Q., Liu, G.R. and De, S. 2015 "Microscopic study of the equation of state of beta-HMX using reactive molecular dynamics simulations" *RSC Advances* 5 55892-55900
- Wang, B.P., Wang, L., Wang, S., Fan, Q.B., Xue, X.F., Zhang, H.F. and Fu, H.M. 2015 "Mechanical response of titanium-based bulk metallic glass under plate-impact compression" *Intermetallics* 63 12-18
- Wang, J., Coppari, F., Smith, R.F., Eggert, J.H., Lazicki, A.E., Fratanduono, D.E., Rygg, J.R., Boehly, T.R., Collins, G.W. and Duffy, T.S. 2015 "X-ray diffraction of molybdenum under shock compression to 450 GPa" *Phys. Rev. B* 92 174114
- Wang, M., Fu, Q.B., Wang, Y., Qin, W.Z., He, B. and Jiang, M. 2015 "Investigation into the initiation of hexanitrostilbene by laser-driven composite flyer plates" *Proc. SPIE* 9255 925545

- Wang, C., Li, Z., Li, D.-F. and Zhang, P. 2015 "Ab initio determination of the instability growth rate of warm dense beryllium-deuterium interface" *Phys. Plasmas* 22 102702
- Wang, M., Si, T. and Luo, X. 2015 "Experimental study on the interaction of planar shock wave with polygonal helium cylinders" *Shock Waves* 25 347-355
- Wang, K., Zhu, W., Xiao, S., Chen, K., Deng, H. and Hu, W. 2015 "Coupling between plasticity and phase transition of polycrystalline iron under shock compressions" *Int. J. Plast.* 71 218-236
- Wang, J., Rajendran, A.M. and Dongare, A.M. 2015 "Atomic scale modeling of shock response of fused silica and  $\alpha$ -quartz" *J. Mater. Sci.* 50 8128-8141
- Wang, H.Z., Liu, K., Zhu, B.F., Feng, J., Ao, P. and Zhang, Z.Z. 2015 "Analytical investigation and scaled prototype tests of a novel permanent magnet compulsator" *IEEE Trans. Magnetics* 51 8203309
- Wang, J.X., Gao, X., Song, C. and Jin, J.Q. 2015 "Experimental study of shock waves induced by a nanosecond pulsed laser in copper target (in Chinese)" *Acta Phys. Sinica* 64 045204
- Wang, F., Peng, X.S., Xue, Q.X., Xu, T. and Wei, H.Y. 2015 "Quasi-isentropic experiment based on Shen Guang-III prototype laser facility with laser direct drive illumination (in Chinese)" *Acta Phys. Sinica* 64 085202
- Wang, S.-G., Elsworth, D. and Liu, J. 2015 "Rapid decompression and desorption induced energetic failure in coal" *J. Rock Mech. Geotech. Engng* 7 345-350
- Wang, B.P., Wang, L., Wang, S., Fan, Q.B., Xue, Y.F., Zhang, H.F. and Fu, H.M. 2015 "Mechanical response of titanium-based bulk metallic glass under plate-impact compression" *Intermetallics* 63 12-18
- Warrier, M., Pahari, P. and Chaturvedi, S. 2015 "Molecular dynamics analysis of the transient temperature increase at void locations in shocked materials: RDX and copper" *J. Molec. Modeling* 21 doi: 10.1007/s00894-015-2737-7
- Weber, P.W., Millage, K.K., Crepeau, J.E., Happ, H.J., Gitterman, Y. and Needham, C.E. 2015 "Numerical simulation of a 100-ton ANFO detonation" *Shock Waves* 25 127-140
- Wehrenberg, C.E., Comley, A.J., Barton, N.R., Coppari, F., Fratanduono, D., Huntington, C.M., Maddox, B.R., Park, H.-S., Plechaty, C., Prisbrey, S.T., Remington, B.A. and Rudd, R.E. 2015 "Lattice-level observation of the elastic-to-plastic relaxation process with subnanosecond resolution in shock-compressed tantalum using time-resolved in situ Laue diffraction" *Phys. Rev. B* 92 104305
- Willis, C., Poole, P.L., Akli, K.U., Schumacher, D.W. and Freeman, R.R. 2015 "A confocal microscope position sensor for micron-scale target alignment in ultra-intense laser-matter experiments" *Rev. Sci. Instrum.* 86 053303

- Winey, J.M., Renganathan, P. and Gupta, Y.M. 2015 "Shock wave compression and release of hcp metal single crystals: Inelastic deformation of c-axis magnesium" *J. Appl. Phys.* 117 105903
- Wood, M.A., Cherukara, M.J., Kober, E.M. and Strachan, A. 2015 "Ultrafast chemistry under nonequilibrium conditions and the shock to deflagration transition at the nanoscale" *J. Phys. Chem. C* 119 22008-22015
- Wu, X., Zhong, F., Yin, Q. and Huang, C. 2015 "Dynamic response of shear thickening fluid under laser induced shock " *Appl. Phys. Letts* 106 071903
- Wu, X.-Q., Yin, Q.-Y. and Huang, C.-G. 2015 "Experimental study on pressure, stress state, and temperature-dependent dynamic behavior of shear thickening fluid subjected to laser induced shock" *J. Appl. Phys.* 118 173102
- Wu, D., Qiao, B. and He, X.T. 2015 "The radiation reaction effects in the ultra-intense and ultra-short laser foil interaction regime" *Phys. Plasmas* 22 093108
- Xi, F., Jin, K., Cai, L., Geng, H., Tan, Y. and Li, J. 2015 "Sound velocity of tantalum under shock compression in the 18–142 GPa range" *J. Appl. Phys.* 117 185901
- Xiao, P., Wang, J., Yang, R., Ke, F. and Bai, Y.L. 2015 "Transition of mechanisms underlying the rate effects and its significance" *Comput. Mater. Sci.* 98 70-75
- Xie, M.X., Zhang, L.J., Zhang, G.F., Zhang, J.X., Bi, Z.Y. and Li, P.C. 2015 "Microstructure and mechanical properties of CP-Ti/X65 bimetallic sheets fabricated by explosive welding and hot rolling" *Mater. Design* 87 181-197
- Xiong, W., Zhang, X.F., Wu, Y., He, Y., Wang, C.T. and Guo, L. 2015 "Influence of additives on microstructures, mechanical properties and shock-induced reaction characteristics of aluminum/nickel composites" *J. Alloys Compounds* 648 540-549
- Xu, T.H. and Zhang, L.M. 2015 "Numerical implementation of a bounding surface plasticity model for sand under high strain-rate loadings in LS-DYNA" *Comput. Geotech.* 66 203-218
- Yahaya, M.A., Ruan, D., Lu, G.X., Dargusch, M.S. and Yu, T.X. 2015 "Selection of densification strain to predict dynamic crushing stress at high impact velocity of ALPORAS aluminium foam" *Key Engng Mater.* 626 383-388
- Yakovlev, R.Y., Dogadkin, N.N., Kulakova, I.I., Lisichkin, G.V., Leonidov, N.B. and Kolotov, V.P. 2015 "Determination of impurities in detonation nanodiamonds by gamma activation analysis method" *Diamond Related Mater.* 55 77-86
- Yakushev, V.V., Zhukov, A.N., Utkin, A.V., Rogacheva, A.I. and Kudakin, V.A. 2015 "Formation of cubic silicon nitride from the low-pressure phase by high-temperature shock compression" *Combust. Explos. Shock Waves* 51 603-610
- Yamamoto, S., Tagawa, Y. and Kameda, M. 2015 "Application of background-oriented schlieren technique to a laser-induced underwater shock wave" *Exper. Fluids* 56 doi: 10.1007/s00348-015-1960-4

- Yamamoto, H., Takayama, K. and Cooper, W. 2015 "Evolution of a luminous front at impact of a 1 km/s projectile into sand", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 763-767, (Berlin, Springer)
- Yan, H., Zhao, T., Li, X. and Hun, C. 2015 "Synthesis of copper-doped nano-TiO<sub>2</sub> by detonation method" *Ceram. Int.* 41 14204-14211
- Yang, Y.D., Xu, J.H. and Yang, L.M. 2015 "Preparation of a nanodiamond colloid from nanodiamond powder resulting from explosive detonation" *New Carbon Mater.* 30 181-185
- Yang, G., Han, X. and Hu, D.A. 2015 "Simulation of explosively driven metallic tubes by the cylindrical smoothed particle hydrodynamics method" *Shock Waves* 25 573-587
- Yang, Y., Peng, Z.Q., Guo, Z.L., Luo, S.H., Tang, T.G., Hu, H.B. and Zhang, Q.M. 2015 "Multidimensional study on spall behavior of high-purity copper under sliding detonation" *Metall. Mater. Trans. A* 46 4070-4077
- Yanuka, D., Shafer, D. and Krasik, Y. 2015 "Shock wave convergence in water with parabolic wall boundaries" *J. Appl. Phys.* 117 163305
- Yanuka, D., Kozlov, M., Zinowits, H.E. and Krasik, Y.E. 2015 "Convergence of shock waves generated by underwater electrical explosion of cylindrical wire arrays between different boundary geometries" *Phys. Plasmas* 22 102708
- Yao, J. 2015 "A mesh-free DSD front tracker for an arbitrary high explosive boundary", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 721-728, (Arlington, VA, Office of Naval Research)
- Yazdani, M., Toroghinejad, M.R. and Hashemi, S.M. 2015 "Investigation of microstructure and mechanical properties of St37 steel-Ck60 steel joints by explosive cladding" *J. Mater. Engng Perform.* 24 4032-4043
- Yazici, M., Wright, J., Bertin, D. and Shukla, A. 2015 "Preferentially filled foam core corrugated steel sandwich structures for improved blast performance" *Trans. ASME: J. Appl. Mech.* 82 061005
- Ye, C., Liu, Y., Sang, X., Ren, Z., Zhao, J., Hou, X. and Dong, Y. 2015 "Solid state amorphization of nanocrystalline nickel by cryogenic laser shock peening" *J. Appl. Phys.* 118 134902
- Yeager, J.D., Jackson, S.I. and Short, M. 2015 "Effect of temperature on detonation propagation in Composition B", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 797-803, (Arlington, VA, Office of Naval Research)
- Yelisseyev, A., Khrenov, A., Afanasiev, V., Pustovarov, V., Gromilov, S., Panchenko, A., Pokhilenko, N. and Litasov, K. 2015 "Luminescence of natural carbon nanomaterial: Impact diamonds from the Popigai Crater" *Diamond Related Mater.* 58 69-77

- Yu, Y., Wang, W., He, H., Jiang, T., Huan, Q., Zhang, F., Li, Y. and Lu, T. 2015 "Mesoscopic deformation features of shocked porous ceramic: Polycrystalline modeling and experimental observations" *J. Appl. Phys.* 117 125901
- Yu, Y., He, H.L., Wang, W.Q. and Lu, T.C. 2015 "The ability of porous brittle materials to absorb and withstand high energy density pulse (in Chinese)" *Acta Phys. Sinica* 64 124302
- Yu, Q.Y., Wang, J., Gan, Y.C., Song, W.D. and Mao, X.N. 2015 "Dynamic constitutive model for TiC-particulate reinforced titanium matrix composites" *Mater. Sci. Forum* 833 141-144
- Yu, Y.-Y., Xi, F., Dai, C.-D., Cai, L.-C., Tan, Y., Li, X.-M., Wu, Q. and Tan, H. 2015 "Dynamic strength behavior of a zirconium-based bulk metallic glass under shock loading" *Chinese Phys. B* 24 066201
- Yu, M., Sun, Y.T. and Liu, Q. 2015 "Analysis on refraction of detonation wave at the explosive-metal interface (in Chinese)" *Acta Phys. Sinica* 64 114702
- Yuen, A. and Barnard, J.J. 2015 "Rarefaction waves in van der Waals fluids with an arbitrary number of degrees of freedom" *Phys. Rev. E* 92 033019
- Yuryk, I.I. 2015 "Application of group-theoretical methods to solving the point explosion problem in incompressible liquid" *Commun. Nonlinear Sci. Numer. Simul.* 22 1017-1027
- Yusupaliev, U., Sysoev, N.N., Shuteev, S.A. and Elenskii, V.G. 2015 "Law of convergence of strong cylindrical and spherical shock waves in a gas with a uniform density" *JETP Letts* 101 609-612
- Zaghloul, M.R. 2015 "Tables of equation-of-state, thermodynamic properties, and shock Hugoniot for hot dense fluid deuterium" *Phys. Plasmas* 22 112709
- Zaidi, A., Mujahid, A., Koslan, S., Fuad, M. and Othman, M.Z. 2015 "Response of armour plate subjected to blast loading based on analytical model of second order single degree of freedom" *Mater. Sci. Forum* 819 387-392
- Zaretsky, E.B. and Kanel, G.I. 2015 "Yield stress, polymorphic transformation, and spall fracture of shock-loaded iron in various structural states and at various temperatures" *J. Appl. Phys.* 117 195901
- Zaug, J.M., Armstrong, M.R., Crowhurst, J.C., Ferranti, L., Swan, R., Gross, R., Teslich Jr., N.E., Wall, M.A., Austin, R.A. and Fried, L.E. 2015 "Ultrafast dynamic response of single crystal PETN and  $\beta$ -HMX", in "Proc. 15th International Detonation Symposium", ed. J. Carney and J. Maienschein, pp. 1573-1583, (Arlington, VA, Office of Naval Research)
- Zeldovich, V.I., Frolova, N.Y., Kheifets, A.E., Dolgikh, S.M., Gaan, K.V. and Shorokhov, E.V. 2015 "Deformation- and temperature-related processes that occur upon the collapse of a thick cylindrical shell made of steel 20" *Phys. Metals Metallog.* 116 285-292

- Zhai, P.C., Dong, Z.W., Miao, R., Deng, X.X. and Chen, L. 2015 "Investigation on the laser-induced shock pressure with condensed matter model" *Jpn. J. Appl. Phys.* 54 056203
- Zhang, X., Hao, H. and Wang, Z. 2015 "Experimental study of laminated glass window responses under impulsive and blast loading" *Int. J. Impact Engng* 78 1-19
- Zhang, F., Liu, Y., Xie, Q., Liu, G. and He, H. 2015 "Electrical response of  $\text{Pb}(\text{Zr}_{0.95}\text{Ti}_{0.05})\text{O}_3$  under shock compressions " *J. Appl. Phys.* 117 134104
- Zhang, X., She, J., Li, S., Duan, S., Zhou, Y., Yu, X., Zheng, R. and Zhang, B. 2015 "Simulation on deforming progress and stress evolution during laser shock forming with finite element method" *J. Mater. Process. Technol.* 220 27-35
- Zhang, F., Huang, X.-G., Shu, H., Xiao, D.-W., He, L.-F., Xie, Z.-Y., Ye, J.-J., Dong, J.-Q., Jia, G., Fang, Z.-H. and Zhou, H.-Z. 2015 "High-power laser shock-induced dynamic fracture of aluminum and microscopic observation of samples" *EPJ Web Conferences* 94 02008
- Zhang, Q.B. and Zhao, J. 2015 "The response of rock materials to one-dimensional shock-loading", in "FragBlast 11: 11th Int. Symp. on Rock Fragmentation by Blasting", ed. A.T. Spathis, D.P. Gribble, A.C. Torrance and T.N. Little, pp. 665-672, (Sydney, Australia, The Australian Institute of Mining and Metallurgy)
- Zhang, Q.L., Zhang, G.M., Zhao, Y.H. and Liu, H.F. 2015 "Study of the equation of states for deuterium, helium, and their mixture (in Chinese)" *Acta Phys. Sinica* 64 094702
- Zhang, K. and Zhang, L.Q. 2015 "Phenomenon of gaseous adiabatic compression of powder in explosive compaction" *Mater. Sci. Forum* 816 711-714
- Zhang, D.Y. 2015 "Time-resolved emission from shocked sapphire at 1,3 Mbar" *Appl. Mech. Mater.* 723 769-773
- Zhang, S.-W., Liu, C.-L., Ren, G.W. and Li, Q.-Z. 2015 "Yield stresses in a ductile metal at a high strain rate in different stress states" *Combust. Explos. Shock Waves* 51 732-737
- Zhang, W.G., He, L.J., Li, P.J., Ye, Y.C., Feng, X. and Novikov, L.S. 2015 "Dynamic response and numerical simulation of aluminum-scandium and aluminum-titanium alloys under high-speed impact" *Trans. NonFerrous Metals Soc. China* 25 559-570
- Zhang, Z.Y., Zhao, Y., Xue, Q.X., Wang, F. and Yang, J.M. 2015 "Optical transparency of transparent window LiF in laser-driven quasi-isentropic compression experiment (in Chinese)" *Acta Phys. Sinica* 64 205202
- Zhang, T., Zhou, K. and Chen, Z.Q. 2015 "Strain rate effect on plastic deformation of nanocrystalline copper investigated by molecular dynamics" *Mater. Sci. Engng A* 648 23-30



- Zhang, B.Y., Zheng, S. and Kang, X.G. 2015 "Simulations of the transient electromagnetic field in exploding foil initiator", in "Proc. 2015 IEEE Advanced Information Technology, Electronic and Automation Control Conference", ed. B. Xu, pp. 126-130, (New York, IEEE)
- Zhao, F.P., Li, B., Jian, W.R., Wang, L. and Luo, S.N. 2015 "Shock-induced melting of honeycomb-shaped copper nanofoams: Effects of porosity" *J. Appl. Phys.* 118 035904
- Zhao, S., Zhang, S., Kang, W., Li, Z., Zhang, P. and He, X.-T. 2015 "First-principles calculation of principal Hugoniot and K-shell X-ray absorption spectra for warm dense KCl" *Phys. Plasmas* 22 062707
- Zhao, S., Kad, B., Hahn, E.N., Remington, B.A., Wehrenberg, C.E., Huntington, C.M., Park, H.-S., Bringa, E.M., More, K.L. and Meyers, M.A. 2015 "Pressure and shear-induced amorphization of silicon" *Extreme Mech. Letts* 5 74-80
- Zhao, X.W., Li, X.Z., Wang, X.J., Song, P., Zhang, H.Z. and Wu, Q. 2015 "Effects of surface groove micro-structure on ejection from shocked metal surface (in Chinese)" *Acta Phys. Sinica* 64 124701
- Zhernokletov, M.V., Borisenok, V.A., Simakov, V.G., Bragunets, V.A., Shestakov, E.E., Podurets, A.M. and Tkachenko, M.I. 2015 "Study of phase transitions in cerium in shock-wave experiments" *EPJ Web Conferences* 94 01076
- Zhernokletov, M.V., Kovalev, A.E., Belsky, V.M. and Bogdanov, E.N. 2015 "Determination of sound velocities of 'overcompressed' detonation in HMX-based explosive" *EPJ Web Conferences* 94 01077
- Zhong, P. 2015 "Uncovering the secret of shock wave lithotripsy", in "Proc. 29th Int. Symp. on Shock Waves", ed. R. Bonazza and D. Ranjan, pp. 869-870, (Berlin, Springer)
- Zhou, X., Nellis, W.J., Li, J., Li, J., Zhao, W., Liu, X., Cao, X., Liu, Q., Xue, T., Wu, Q. and Mashimo, T. 2015 "Optical emission, shock-induced opacity, temperatures, and melting of  $Gd_3Ga_5O_{12}$  single crystals shock-compressed from 41 to 290 GPa " *J. Appl. Phys.* 118 055903
- Zhou, T.T., Lou, J.F., Song, H.J. and Huang, F.L. 2015 "Anisotropic shock sensitivity in a single crystal delta-HMX: A reactive molecular dynamics study" *Phys. Chem. Chem. Phys.* 17 7924-7935
- Zhou, T.T., Zhang, Y.G., Lou, J.F., Song, H.J. and Huang, F.L. 2015 "A reactive molecular dynamics study on the anisotropic sensitivity in single crystal alpha-HMX" *RSC Advances* 5 8609-8621
- Zhu, M.-H., Wünnemann, K. and Potter, R.W.K. 2015 "Numerical modeling of the ejecta distribution and formation of the Orientale Basin on the Moon" *J. Geophys. Res.: Planets* 120 2118-2134

- Zinszner, J.-L., Erzar, B., Forquin, P. and Barthélémy, F. 2015 "On the characterisation of the dynamic compressive behaviour of silicon carbides subjected to isentropic compression experiments" EPJ Web Conferences 94 01072
- Zinszner, J.L., Erzar, B., Forquin, P. and Buzaud, E. 2015 "Dynamic fragmentation of an alumina ceramic subjected to shockless spalling: An experimental and numerical study" J. Mech. Phys. Solids 85 112-127
- Zong, H.X., Ding, X.D., Lookman, T., Li, J. and Sun, J. 2015 "Uniaxial stress-driven coupled grain boundary motion in hcp metals: A molecular dynamics study" Acta mater. 82 295-303
- Zubareva, A.N., Sosikov, V.A. and Utkin, A.V. 2015 "Investigation of anomalous compressibility of docosane and cerium under shock-wave action" J. Phys.: Conf. Ser. 653 012035