

Publications

Journal Articles

- O.E. Petel, S. Ouellet, J. Loiseau, B.J. Marr, D.L. Frost, and A.J. Higgins, "The Effect of Particle Strength on the Ballistic Resistance of Shear Thickening Fluids," *Applied Physics Letters*, 102:064103, 2013.
- O.E. Petel, S. Ouellet, A.J. Higgins, and D.L. Frost, "The Elastic-Plastic Behaviour of Foam under Shock Loading," *Shock Waves*, 23:55-67, 2013.
- D.L. Frost, Y. Grégoire, O.E. Petel, S. Goroshin, and F. Zhang, "Particle Jet Formation During Explosive Dispersal of Solid Particles," *Physics of Fluids*, 24:091109, 2012.
- O.E. Petel, D.L. Frost, A.J. Higgins, and S. Ouellet, "Formation of a Disordered Solid via a Shock-induced Transition in a Dense Particle Suspension," *Physical Review E*, 85:021401, 2012.
- O.E. Petel, F.X. Jetté, S. Goroshin, D.L. Frost, and S. Ouellet, "Blast Wave Attenuation Through a Composite of Varying Layer Distribution," *Shock Waves*, 21:215-224, 2011.
- O.E. Petel and A.J. Higgins, "Shock Wave Propagation in Dense Particle Suspensions," *Journal of Applied Physics*, 108:114918, 2010.
- O.E. Petel and F.X. Jetté, "Comparison of Methods for Calculating the Shock Hugoniot of Mixtures," *Shock Waves*, 20:73-83, 2010.
- O.E. Petel, D. Mack, A.J. Higgins, R. Turcotte, and S.K. Chan, "Minimum Propagation Diameter and Thickness of High Explosives," *Journal of Loss Prevention in the Process Industries*, 20:578-583, 2007.

Conference Journal Articles (Peer-Reviewed)

- O.E. Petel, S. Ouellet, D.L. Frost, and A.J. Higgins, "Shock Hugoniot Measurements in Foams," *Journal of Physics: Conference Series*, (in press).
- O.E. Petel, G. Appleby-Thomas, A. Hameer, A. Capozzi, S. Goroshin, D.L. Frost, and P. Hazell, "Lateral stress evolution in Chromium Sulfide," *Journal of Physics: Conference Series*, (in press).
- B.J. Marr, O.E. Petel, D.L. Frost, and A.J. Higgins, "Shock-Induced Deformation in Dry and Wetted Particle Beds," *Journal of Physics: Conference Series*, (in press).
- J. Loiseau, O.E. Petel, J. Huneault, M. Serge, D.L. Frost, and A.J. Higgins "Explosive acceleration of plates using nonconventional explosives heavily loaded with inert and reactive materials," *Journal of Physics: Conference Series*, (in press).
- M. Serge, O.E. Petel, J. Loiseau, and A.J. Higgins "Strength effects in an imploding cylinder with constant mass-to-explosive loading," *Journal of Physics: Conference Series*, (in press).
- J. Loiseau, J. Huneault, O.E. Petel, S. Goroshin, D.L. Frost, and A.J. Higgins "Development of multi-component explosive lenses for arbitrary phase velocity generation," *Journal of Physics: Conference Series*, (in press).

- S. Ouellet, D.S. Cronin, J.P. Moulton, and O.E. Petel, "High Rate Characterization of Polymeric Closed-Cell Foams: Challenges Related to Size Effects," *Dynamic Behavior of Materials*, 1:21-28, 2013.
- O.E. Petel, A.J. Higgins, D.L. Frost, and S. Ouellet, "Shock-induced Formation of a Disordered Solid from a Dense Particle Suspension," *AIP Conference Proceedings*, 1426:1459-1462, 2012.
- O.E. Petel, D.L. Frost, A.J. Higgins, and S. Ouellet, "Lateral Stress Measurements in Dense Suspensions," *AIP Conference Proceedings*, 1426:1495-1498, 2012.
- Y. Gregoire, O.E. Petel, and D.L. Frost, "Development of Instabilities in Explosively Dispersed Particles," *AIP Conference Proceedings*, 1426:1623-1626, 2012.
- O.E. Petel and A.J. Higgins, "Planar Impact Study of a Shear Thickening Fluid," *AIP Conference Proceedings*, 1195:521-524, 2010.
- O.E. Petel, A.J. Higgins, A.C. Yoshinaka, and F. Zhang, "High-speed Photography of Detonation Propagation in Dynamically Precompressed Liquid Explosives," *AIP Conference Proceedings*, 995:857-860, 2008.
- D.B. Mack, O.E. Petel, and A.J. Higgins "Detonation Failure Thickness Measurement in an Annular Geometry," *AIP Conference Proceedings*, 995:833-836, 2008.
- O.E. Petel, D. Mack, A.J. Higgins, R. Turcotte, and S.K. Chan, "Comparison of the Detonation Failure Mechanism in Homogeneous and Heterogeneous Explosives," *13th International Detonation Symposium*, pp. 2-11, 2007.
- O.E. Petel and A.J. Higgins, "Comparison of Failure Thickness and Critical Diameter of Nitromethane," *AIP Conference Proceedings*, 845:994-997, 2006.
- O.E. Petel, A.J. Higgins, A.C. Yoshinaka, and F. Zhang, "Effect of Shock Precompression on the Critical Diameter of Liquid Explosives," *AIP Conference Proceedings*, 845:998-1001, 2006.
- A.C. Yoshinaka, F. Zhang, O.E. Petel, and A.J. Higgins, "Initiation of Detonation in Multiple Shock-Compressed Liquid Explosives," *AIP Conference Proceedings*, 845:1139-1142, 2006.
- O.E. Petel, V. Tanguay, A.J. Higgins, A.C. Yoshinaka, and F. Zhang, "Detonation Propagation in Shock-compressed Liquid Explosives," *AIP Conference Proceedings*, 706:883-886, 2004.

Invited Talks

- "The Dynamic Behaviour of Dense Suspensions: A fundamental study of shear thickening fluids at high strain rates," *Seminar in Mechanics and Materials Engineering, University of California, San Diego, CA, May 3, 2011.*
- "Novel techniques for *in situ* strain measurements applicable to non-penetrating injuries," *Special Seminar, Army Research Laboratory - Aberdeen Proving Ground, Aberdeen, MD, March 3, 2011.*
- "Critical Diameter in Liquid Explosives: The Role of Geometry and the Influence of Precompression," *CERL Technical Seminar, Canadian Explosives Research Laboratory, Natural Resources Canada - CANMET Bells Corners Complex, Nepean, ON, Oct. 21, 2005.*