

Technical Session Details (subject to change)

Session I – High Velocity Penetration and Target Response I

- 46 - An analytical model for local penetration of ultra-high molecular weight polyethylene composite, Long H. Nguyen
- 105 - Optimized Impact Mitigation Barriers for Insensitive Munitions Compliance of a 120mm Warhead, Kevin T. Miers
- 11 - In-situ observation of damage evolution in polycarbonate subjected to hypervelocity impact, Nobuaki Kawai
- 80 - Automatic Mesh-Generation (FEM/SPH) for HVI-Simulations of Arbitrary Rotational Symmetric Impactors, Marvin Becker
- 73 - Filling the Gap between Hypervelocity and Low Velocity Impacts, Werner Arnold
- 23 - Dynamic Fragmentation of Boron Carbide with Laser-Driven Impact, Debjoy D. Mallick

Session II – Material Response I

- 12 - Bayesian model selection for metal yield models in high-velocity impact, Teresa Portone
- 31 - Equation of State of Lead Filled Glass, Bernardo Farfan
- 40 - Modelling the deformation of a high-hardness armour steel in Taylor rod-on-anvil experiments, Shannon Ryan
- 83 - Thin film graded density impactors for high rate off-Hugoniot loading: Application to Ta strength, J. L. Brown
- 7 - Wave speeds in single and polycrystalline copper, Sarah A. Thomas
- 57 - Eulerian Hydrocode Modeling of a Dynamic Tensile Extrusion Experiment, M. W. Burkett

Session III – Hypervelocity Phenomenology

- 30 - Experiments using a light gas gun to investigate the impact melting of gunshot residue analogues, V. Spathis
- 15 - DEVELOPMENT OF ARL'S MULTI-ENERGY FLASH COMPUTED TOMOGRAPHY DIAGNOSTIC: CAPABILITY TO TRACK MASS-FLUX THROUGH A RECONSTRUCTION VOLUME, Michael B. Zellner
- 35 - Four-View Split-Image Fragment Tracking in Hypervelocity Impact Experiments, Erkai Watson
- 112 - X-ray diffraction diagnostic paired with gas gun driven compression of polyethylene, Rachel C. Huber
- 77 - Hypervelocity sequenced laser shadowgraph instrument and measurement of debris cloud with hypervelocity, Ke Fawei

Session IV - Spacecraft Meteoroid and Debris Shielding I

- 48 - Investigation on Response of an Aluminum Honeycomb Subjected to Hypervelocity Impacts using Lagrange and SPH for Numerical Modeling, Kumi Nitta
- 66 - Using the DebrisSat fragments to update the NASA Standard Satellite Breakup Model and shape effects on ballistic limit equations, Heather Cowardin
- 118 - Hypervelocity Impact of PrintCast A356/316L Composites, Zachary C. Cordero
- 99 - Explosion of hydrazine tanks due to space debris impacts, Jérôme Limido

44 - Simulation study of non-spherical, graphite-epoxy projectiles, Joshua E. Miller

Session V - High Velocity Penetration and Target Response II

- 104 - High Velocity Impact Testing for Evaluation of Intermetallic Projectiles, Michelle L. Pantoya
- 14 - Towards a Better Understanding of Shaped Charge Jet Formation and Penetration, David W. Price
- 36 - Prediction of Micrometeoroid Damage to Lunar Construction Materials using Numerical Modeling of Hypervelocity Impact Events, Maria I. Allende
- 119 - A Predictive Non-Dimensional Scaling Law for the Plate Perforation of Several Aluminum Alloys by Fragment-Simulating Projectiles, Weinong Chen
- 63 - Modeling Hypervelocity Impact of Reinforced Carbon-Carbon Composite Thermal Protection System, Alexander J. Carpenter
- 108 - Experiment guided simulation of multi-fragment impact into PBXs, Andrew M. Schmalzer

Session VI - Armor/Anti-Armor and Ballistic Technology

- 93 - Effect of Liquid Parameters on Protective Performance of Liquid Composite Target Subjected to Jet, Tan Yaping
- 50 - Defeating Modern Armor and Protection Systems, Markus Graswald
- 110 - 3D Printed Conical Shaped Charge Performance, Phillip Mulligan
- 4 - Calculation of Jet Characteristics from Hydrocode Analysis, Justin C. Sweitzer

Session VII - Fracture and Fragmentation

- 61 - Assessment and Validation of Collision "Consequence" Method of Assessing Orbital Regime Risk Posed by Potential Satellite Conjunctions, Travis F. Lechtenberg
- 97 - Characterization of the ballistic properties of ejecta from laser shock-loaded samples using high resolution ps laser imaging, Arnaud Sollier
- 120 - Conical impact fragmentation test (CIFT), Christopher Neel
- 22 - BULKING AS A MECHANISM IN THE FAILURE OF ADVANCED CERAMICS, Brendan M. L. Koch
- 56 - The Role of Inclusions in the Failure of Boron Carbide Subjected to Impact Loading, Andrew L. Tonge
- 89 - Pagosa Simulation of Hypervelocity Impact and Fragmentation From Hypersonic Explosions, Xia Ma
- 25 - Deformation and Acceleration of Zn and Cu Liners under Explosive Shock Loading, Puwadet Sutipanya

Session VIII - Analytical and Numerical Methodologies 1

- 78 - AN ACCURATE SPH SCHEME FOR HYPERVELOCITY IMPACT MODELING, Jérôme Limido
- 90 - Analytically derived space time-based boundary condition (STBC) to account for stress wave propagation in heterogeneous micromechanical model at hypervelocity impact, Zhiye Li
- 60 - Validation of an Improved Contact Method for Multi-Material Eulerian Hydrocodes in Three-Dimensions, Kenneth C. Walls

- 111 - Higher-order finite elements for lumped-mass explicit modeling of high-speed impacts, Kent Danielson
- 91 - Multiscale Modeling of Reactive Structural Materials, Grant Smith

Session IX – Asteroid Impact and Planetary Defense

- 38 - Impact Modeling for the Double Asteroid Redirection Test (DART) Mission, Emma S. G. Rainey
- 28 - Momentum transfer in hypervelocity cratering of meteorites and meteorite analogs: Implications for asteroid deflection, George J. Flynn
- 32 - Simulations of Magnetic Fields Produced by Asteroid Impact: Possible Implications for Planetary Paleomagnetism, David A. Crawford
- 49 - Size scaling of crater size, ejecta mass, and momentum enhancement due to hypervelocity impacts into 2024-T4 and 2024-T351 aluminum, James D. Walker
- 59 - Hypervelocity Impact on Concrete and Sandstone: Momentum Enhancement from Tests and Hydrocode Simulations, Sidney Chocron

Session X - Material Response II

- 20 - Statistics of Energy Dissipation in the Hypervelocity Impact Shock Failure Transition, Dennis Grady
- 42 - Dynamic response of graphene and yttria-stabilized zirconia (YSZ) composites, Christopher R. Johnson
- 102 - Validating Ice Impacts Using Adaptive Smoothed Particle Hydrodynamics for Planetary Defense, Dawn Graninger
- 8 - High velocity impact of an Fe/Cr/Mn/Ni high entropy alloy, M. Cameron Hawkins
- 47 - High Strain-rate Shear and Friction Characterization of Fully-Dense Polyurethane, Peter Sable
- 27 - Study on phase transformation in Tin under dynamic compression, Camille Chauvin

Session XI – High Velocity Launchers

- 81 - Voitenko experiments with novel diagnostics detect velocities of 89 km/s, Douglas G. Tasker
- 39 - HyFIRE: Hypervelocity Facility for Impact Research at Johns Hopkins University, Gary Simpson
- 84 - The JHUAPL Planetary Impact Lab (PIL): Capabilities and initial results, R. Terik Daly
- 117 - Timing Analysis of the Auxiliary Pump Technique to Improve the Performance of an Implosion-Driven Hypervelocity Launcher, Mafa Wang

Session XII - Spacecraft Meteoroid and Debris Shielding II, Papers 37, 71, 29, 54, 99

- 37 - Depth of penetration criteria on metallic surfaces for use in MMOD risk assessment, Henry Nahra
- 71 - Numerical study of dynamic behavior of foams subjected to high- to hyper-velocity impact, Xiaotian Zhang
- 29 - Predicting orbital debris-induced failure risk of wire harnesses using SPH hydrocode modelling, Joel Williamsen

- 54 - Debris Risk Evolution And Dispersal (DREAD) for post-fragmentation modeling,
Daniel L. Oltrogge
- 26 - A rupture limit equation for COPVs following a perforating MMOD impact,
William P. Schonberg

Session XIII - Analytical and Numerical Methodologies II, Material Response III

- 109 - Adiabatic heating and damage formation of composite associated with high-velocity impact, Zhiye Li
- 52 - A MESOSCALE-BASED STATISTICAL MECHANICS FRAMEWORK FOR MODELING, HOMOGENIZATION, AND UNCERTAINTY QUANTIFICATION OF SAND IN HYDROCODES,
Gerald Pekmezi
- 17 - Mesoscale modeling and debris generation in hypervelocity impacts,
Stephanie N. Q. Bouchey
- 33 - Hypervelocity penetration of granular silicon carbide from mesoscale simulations,
Brian J. Demaske
- 72 - Numerical and Experimental Evaluations of a Glass-Epoxy Composite Material Under High Velocity Oblique Impacts, Christopher T. Key
- 10 - Effects of EOS and constitutive models on simulating copper shaped charge jets in ALEGRA, Robert L. Doney