



Symposium on Interaction of Non-Nuclear Munitions with Structures

2017

Buried Charges 1A		
Schwer, Len Rigby S.	Buried Charges: The Challenge of Computing Target Pressure Distributions	
Voisin, Arthur Boussu F., Soulat D., Pariente J., Lemerrier, S., Loverini M.	Comparison of shock waves emitted by buried landmines and mines placed in a steel-pot	
Fuller, Ben J. Warren J.A., Clarke S.D., Rigby S.E., Tyas, M., Gant M., Elgy I.	Assessing the Performance of Protective Systems subject to Buried Charge Blasts	

Simulation - Codes & Modeling		
Feldgun, Vladimir Yankelevsky D.Z., Karinski Y.S.	Theoretical analysis of experiments on blast loading on structural elements without using explosive charges	
Li, Gen Yu Q.J., Tan K.H., Fung T.C.	Numerical Simulation of CFRP to Concrete Interface Dynamic Bond-slip Process	
Pascoe, Luke Noli S., Walden M.	Idealised Methodology to Assess RC Columns Under Impulsive Blast Loads	

Structural Response		
Eytan, Reuben Micaela E	Practical Experience in Observing the Behavior of Hardened Structures under Real Attacks	
Sagals, Genadijs Orbovic N., Cole C.	FE Modeling of Impact Induced Vibrations of Reinforced Concrete Structures under Missile Impact	
Ornai, David Shohet, Levy, Vilnay, Gal, Gilad, Kivity, Ben-Dor, Tavron, Chadad,	Nuclear power plant vulnerability to near miss munition explosion	

Experimental Validation - Modelling & Scaling		
Liang, Song Chng D.	Effects of Improvised Explosive Device Detonation - Comparisons between Test Data and Results calculated from Conventional Weapon Effects Assessment Methodologies	
Langran-Wheeler, Christian Tyas A., Rigby S., Stephens CS., Clarke S., Warren J., Walker RE.	Characterisation of reflected blast loads in the very near-field from non-spherical explosive charges	
Puryear, J Waclawczyk J., Barker D.	Fatigue Design for Blast-Containment Chambers	

Simulation - Codes & Modeling		
Sauer, Christoph Heine A., Riedel W.	Hydrocode Simulations of Adobe Targets Perforated by WHA-Projectiles	

Rigby, Sam Chaudhary N., Bogosian N., Payne T.	Large-scale validation of Hudson clearing predictions	
Grunwald, Christoph Schaufelberger Ch., Riedel, W.	Verification and Validation of the RHT model in LS-DYNA	

Blast - Internal Detonation		
Chikhradze, N. Mataradze E., Chikhradze M., Krauthammer T.	Protection concept and design system for mitigating effect terrorist and accidental explosions in underground structures	
Toh, Wee Tee Koh W.T., Lai L.Y.	Effects of Increasing Earth Cover of Magazines on Blast Peak Pressure and Impulse	
Oswald, Charles	Comparison of Measured and Calculated Gas Pressure Histories	

Experimental Validation - Modelling & Scaling		
Heggelund, Solveig Brekken K., Ingier P., Christensen S.O.	Global response of a three-story reinforced concrete building exposed to air-blast	
Schmitt, Daniel Dirlewanger H., Stolz A.	Investigations on Reinforced Concrete Slabs under Impact of Mortar Tail Units	

Experimental Validation -Blast Load 3b		
Rigby, Sam Curry R., Langdon G. Tyas A.	Initial velocity distribution of blast loaded plates	
Tang, Lisa Bird D., Rigby S., Tyas A., Warren J.	Reflections on variability of blast pressure measurement at different scales	

Close in & Contact Detonations		
Zircher, Tobias Keuser M., Burbach A.	Investigations on the damage of protective components after contact detonation	
Yu, Deun Berg A.	Evaluation of the Protective Properties of Fiber-reinforced Concrete (FRC) in Explosions	

Experimental Validation -Material 4a		
Beppu, Masuhiro Kataoka S., Mush H., Okamoto S., Ichino H.	Impact response of UHPC-FRC panels subjected to projectile impact	
French R. Maher E., Smith M., Stone M., Kim J., Krauthammer T., Foust B.W., McMahon	Direct Shear in Structural Concrete	
Wilkes, J. Krauthammer T.	An Energy Flow Methodology for Progressive Collapse Assessment	

NATO Structural Response		
Burbach, Albert	Blast load on brickwork	NATO
Staubs, Ernest A.	Overview of AFRL Joint Weapon Effects Research	NATO
Bongartz, A. Summers, RT. Angel, J., Grossmann, I. Luttermann, D., Jordan, J., Roman- Castro,	Effects of Dedicated Shoulder Fired Weapons against MOUT Targets	NATO

Ammunition		
van der Voort, Martijn	Future development of QD standards	
Johnsson, Fredrik Vretblad B.	Explosive remnants – A societal risk challenge	
Ross, Tyler Foust L., Swisdak M., Tatom J., Conway R	Continued Study of Hazardous Fragment Debris IBD	

Experimental Validation –Material 5a		
Monk, Sarah Clubley, S.K.	Quantifying the Influence of Aspect Ratio on Window Failure when Subject to Long-duration Blast Loading	
Sturtzer, Michel Schunck T., Ehrhardt L., Eckenfels D., Legendre J.-F.	Blast wave mitigation using porous solid material	
Bermbach, Tim Gebbeken N.	Laminated Safety Glass – The Influence of Composite Characteristics on Blast Resistance	

NATO Blast – Internal Detonation		
Littrell, Donald Zahrah T., Watry C.	Blast Characteristics of a Reactive Material in the Ladeburg Replica Facility	NATO
Powell, David Bogosian D., Ohrt A.	A Proposed Standard Methodology for Evaluating Blast Metrics from Internal Detonations	NATO
Ohrt, Alan	An Analysis of Casing Effects on Quasi-Static Gas Pressures From Internal Detonations	NATO

Protection Measures -Structures & Systems		
Rüdiger, Lars Andrae M., Warnstedt P., Weifang Xiao W., Gebbeken N	. Blast mitigation barriers for urban places	
Yeo, Hui Wie Peh T.S., Karen O. Y., Chong K., Ng C.B.	Explosive and Air Flow Testing of Modular Passive Blast Attenuation Systems	
Xiao, Weifang Andrae M., Gebbeken N.	Numerical Prediction of the Shock Wave Mitigation Effect by Protective Barriers comprising Steel Columns with Hollow Section	

Experimental Validation - Modelling & Scaling 6a		
Barr, Andrew Clarke S.D., Tyas A., Warren J. A.	Particle breakage in partially-saturated sand under dynamic loading	
Li Piani, Tiziano Weerheijm J., Sluys L.J., Koene L.	The Ballistic Resistance of Adobe Masonry: An analytical model for impacts on mud bricks and mortar	

Simulation - Software & Tools		
Terranova, Brian Whittaker A., Schwer L.	Analysis of wind-borne missile impact of reinforced concrete panels using three concrete materials models	
Lapébie, Emmanuel Youinou L., Osmont A., Saurel R., Vides J.	Fast-running models for blast and QSP in complex geometries	
Nickell, G. Ortel M., Ross T., Tatom J. Conway	Review of Debris Perforation and Residual Velocity	

Protection Measures -Structures & Systems		
Christoffersen, Ingeborg Svendsen A., Rakvåg K.	Full scale explosion experiments with double pane windows and cable catch system	
Chadad, Liran Vilnay O., Levy R., Ornai D.	Improved blast resistance of buildings' frontal walls based on passive controlled structural mechanism	
Lori, Guido Mocibob D., Morison C.	Design and experimental validation of dissipative bracket supports for curtain wall blast enhancement	

Blast - Resistance		
Weaver, Mark K. Laughlin C., Newberry C.	Blast Resistance of Cross-Laminated Timber Construction	
Brosh, Benny Ornai D., Shohet I.M., Ben-Dor G.	Vulnerability of Existed and Retrofitted Emergency Wards Exposed to Above Ground Nuclear Explosion	
Pope, Dan Dirlewanger H., Stolz A., Landmann F.	Enhancement of Hesco-Bastion wall models to better predict magnitudes of response under far-field loading conditions	

NATO Simulation - Codes & Modeling		
Scarborough, E. Anderson, J.R., Rossberg, D., Soullié, T.	Comparison of Fast Running Simulations of Weapon Effects in Urban Environment	NATO
Dorsch, H. Bongartz, A., Voit, H.	Fast Running Penetration Modelling for Inhomogeneous Wall Targets	NATO
Bongartz, A. Maier, A., Voit, H., Greulich S.	New Features in UniVeMo Penetration Modelling	NATO

Simulation - Codes & Modeling 7c		
Sielicki, Piotr W. Sumelka W.	Equations of state for condensed explosives, properties sensitivity	
Bar-On, Eli Falcovitz J., Shuall S.	Second Step on the Way to Build a Compact Blast Simulator	
Pereira, Luis Magalhaes Weerheijm L, Sluys L.J.	A new approach towards the numerical modelling of ballistic impact on concrete targets	

Blast – Resistance 8a		
Arlery, Magali Pontiroli C.	Experimental and numerical assessment of the damaging effects of close-in detonations on reinforced concrete columns	
Choon-Keat ANG Kong J.Y., Goh J.	Design and testing of a protective structure to resist semi confined explosion	
Maazoun, A Matthys S., Vantomme John	Reinforced concrete hollow core slabs with externally bonded reinforcement CFRP under blast loading	

NATO Blast - Fragmentation		
Staubs, Ernest A.	Research into Secondary Debris and its Potentially Damaging Effects on Personnel, Infrastructure, and Equipment	NATO
Dörr, A. Dorsch, H., Rohen, K.	Scanning and Automated Assessment of Debris Mass Distribution of Secondary Debris	NATO

Dörr, A. Dorsch, H., Sohn, H.	The Effect of Contact and Embedded Detonations on Masonry Walls	NATO
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Resilience – Damage Classification		
von Ramin, Malte Stolz A.	Damage Classification for Buildings subjected to Extreme Loading	
Erdolu, Ömer Kayran, A.	Damage Analysis in Blast Loaded Concrete Columns Using SDOF Approach	

Blast - Fragmentation		
Kedar, Hai Ornai D., Sadwin L.D.	Energy Distribution of Bare & Cased Chemical Charge Explosions in Air	
Jorgensen, Frederick B. Marjanishvili S.	Simulation and Comparison of Primary and Secondary Fragments to Blast Effects	

NATO Experimental Validation 9b		
LaGrange, Brian Davis R., Ohrt A., Peiris S.	Distributed Blast in a Multi-Room Small-Scale Structure	NATO
Bogosian, David Powell D., Ohrt A.	Validation of Scalability of Airblast Phenomena in a Multi-Room Structure	NATO
Ohrt, Alan Rogers J., Oliver C.	Small-Scale Investigation of Blast Winds from Internal Detonations	NATO

Simulation - Codes & Modeling		
Gombeda, Matthew J. Quiel S., Naito C.	Performance-Based Analysis and Limit States for Precast Concrete Wall Panels Subjected to Blast Loading	
Weerheijm, Jaap Stolz A., Riedel W., Slobbe A.T.	An integral modelling approach for the loading and break-up of RC structures due to internal explosion of fragmenting shells	
McGeehin, William James Burge J.R., Dunnett J., Macdonald P.	Recent Developments and Advances in the PALETTE Terminal Effects Prediction Software	

Poster		
Anastacio, Aline Cardoso Selesovsky J., Kucera J., Pachman J.	Issues of scaling down TNT air blast data	
Kucera, Jindrich Anastacio A., Pachman J.	Use of the high-speed imaging for fireball and shock wave tracking for determination of the blast overpressure from small TNT charges	
Brandys, Irad Ornai D., Ronen Y.	Integrated blast resistance model of nuclear power plant auxiliary facilities	
Huber, Daniel Ramezani A.	Transferring a hydrocode based blast wave propagation to an automotive industry standard finite element code to simulate non-military armored vehicles	