

P02 Comparisons of University of Newcastle Free Air Blast Data with CONWEP and LS-DYNA Simulations

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Abstract:

At the 2013 ISIEMS, Professor Mark Stewart presented a paper describing repeat measurements of free air blast pressures. The focus of these measurements was the variability in the blast wave parameters, e.g. maximum pressure, maximum impulse and positive phase duration, as they compare with empirical air blast models such as ConWep

The present effort is focused on comparing this wealth of air blast data with LS-DYNA Eulerian simulation results. Open source air blast data is difficult to obtain – repeat data is essentially non-existent – so most computational results are compared with ConWep. However, there is some discussion in the air blast community concerning the validity of the ConWep results. In the present manuscript, in addition to the simulation results comparisons, ConWep results are also included.

Netherton, M. and M. Stewart, 2013, "The Variability of Blast-loads from Military Munitions and Exceedance Probability of Design Load Effects," Proceedings of the 15th International Symposium on the Interaction and Effects of Munitions on Structures (ISIEMS), Potsdam, Germany.

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