VALIDATION OF AIR3D FOR SCALED EXPERIMENTAL PRESSURE AND IMPULSE DATA

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Air3D is a hydrocode that models the propagation of a shock wave and its interaction with structures. Air3D was developed at Cranfield University. The code solves differential Euler equations of fluid mechanics in space and time for 1-dimensional, then 2-dimensional and finally 3-dimensional models using physics as opposed to empirical formula derived from experiments. Depending on the complexity of the problem and the cell size used, the programme can take a significant amount of time to run, however it is easy to set up and run and generate solutions.

Following a presentation at ISIEMS 2017 on the validation of blast scaling for trials between 250 grams and 500 kilograms TNT Equivalence explosive charges, this poster presentation will use data from the paper to validate Air 3D as a programme for predicting blast overpressures and impulses. The previous paper validated ConWep as a tool for predicting blast pressures, but did not consider Impulse - this will also be covered in this poster presentation.