P76 Numerical and Experimental Study of Near Field Blast Mitigation Effects in Cylindrical Geometry

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Abstract:

We present results of a coupled modelling and experimental programme investigating the near field effects of an explosive surrounded by a range of materials. An important application for this class of problem is mitigation of blast. We briefly review some of our previous work which has concentrated on spherical geometry. In the current work we consider cylindrical geometry.

Material surrounding the explosive core can mitigate the far field blast. In the near field the flow is complex and a common feature in both spherical and cylindrical geometry is the formation of fingers of mitigant material. The form of these strongly influences near field effects. We report the results of modelling and experiment to investigate the influence of generic classes of mitigant material (powder size and type, liquid and slurries) on the near field.

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