

## RECONSTRUCTION OF A BLAST FIELD FROM SELECTED PRESSURE OBSERVATIONS

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For experimental studies of target response to high energy blast one needs an accurate definition of the blast field which provides the load on the targets. Measurements of the blast field usually are restricted, for technical reasons, to overpressure history observations at a number of stations. Therefore, one has the task to reconstruct the flow field behind the initial shock from such pressure data.

This paper describes a recently developed flow reconstruction method. It is based on a model fitting of the observed pressure field and a subsequent numerical integration of the flow governing equations. The algorithms also provide estimates of the accuracy of the computed flow field in terms of the accuracy of the data. In typical applications, the algorithms were found to be stable, i.e. the observational inaccuracies were not amplified or accumulated. As a second check, the algorithms include an independent control calculation of the flow velocity. The latter calculation provides a test for systematic errors in the data and model.

Applications of the flow reconstruction method will be shown for two cases. one case is a theoretically computed strong blast. The second case is an application of the algorithms to actual field data.