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An Analytic Model of Close-Range Blast Fragment Loading ERNST ROTTENKOLBER, NUMERICS GmbH, Mozartring 6, 85238 Petershausen, Germany, WERNER ARNOLD, EADS-TDW GmbH, Hagenauer Forst 27, 86529 Schrobenhausen, Germany — The effects of blast-fragmentation warheads need to be carefully characterized in a variety of applications like passive and active vehicle protection or hard target defeat and TBM defense. With these applications in mind, we have developed a collection of tools called FI-BLAST (**F**ast **I**nterface for **B**last-Fragment **L**oad **A**nalysis of **St**ructures). In the present paper we describe the essential part of these tools, namely the close range blast-fragment model. The meaning of "close range" is here defined as the standoff to a charge at which blast effects can inflict serious damage on massive structures. In order to quantify our model's range of validity, examples of measured and calculated momentum of bare and confined charges are given in the present paper. Short (L/D = 0.5) and long (L/D = 5) cylindrical charges are included as well as spherical charges. The presented examples demonstrate that the model gives reasonable results in the intended domains of application.

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