Abstract Submitted
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Influence of the donor charge initiation on the fragment clouds of a metal plate pushed by High Explosives ALEXANDRE LEFRANCOIS, JACQUES PETIT, SEBASTIEN DUMANT, FREDERIC SINATTI, PATRICK REY, CEA/DAM/CEG, CEA/DAMCEG TEAM — Fragment clouds are observed when the free surface of a metal plate reflects a release wave generated by HE. The influence of the shock front propagation, the side release and the shock wave collide are investigated using multipoint initiation and several HE donor diameter on a screening small scale plate push test. These phenomena have been explored with different thicknesses of several metals (Al, Cu, Sn) using three soft 150 kV flash X ray radiography by shot, and using X-ray tomography on recovered samples. The radiography resolution of the low apparent density areas has been increased. A "spall" threshold is characterized by the clearing of the higher apparent density region ahead of the fragment clouds. The mean velocity of the different regions is also measured. The fragment clouds are recovered in foam. The particle size distribution is analysed and correlated with the shock conditions.

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