

Abstract Submitted
for the SHOCK15 Meeting of
The American Physical Society

Mass estimation of shaped charge jets from x-ray shadow graph with new calibration curve method FUMIKAZU SAITO, HIROAKI KISHIMURA, AKIRA KUMAKURA, SHUN SAKAI, National Defense Academy — In order to assess the penetration capability of the Al and Cu metal jets against a bumper structure (such as Al plate and /or Al block), we measured the initial formation process of the metal jets generated from conical shaped charge device. The shaped charge device configurations employed in the experimental and numerical investigations have conical aluminum (and copper) liner and steel casing with PBX explosive charge. The profile and velocity of the jets are measured with flash x-ray and x-ray film system. The mass of the jet tip are estimated from x-ray images by a calibration curve method proposed by our group. Al targets are used to evaluate a penetration performance of the jets. Additionally, we have simulated the initial formation process of the shaped charge jets with Autodyne-2D hydrodynamic code, which proposed important data to compare the experimental one.

Fumikazu Saito
National Defense Academy

Date submitted: 30 Jan 2015

Electronic form version 1.4