

Abstract Submitted
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Scaled Long Rod Perforation Experiments Using Multiple Diagnostics DANIEL CROSS, Fracture and Shock Physics Group, Cavendish Laboratory, University of Cambridge, WILLIAM PROUD, Fracture and Shock Physics, Cavendish Laboratory, University of Cambridge — A series of angled small-scale reverse ballistic long rod experiments were conducted using mild steel rods (6 mm dia., 90 mm long) against both 3 mm and 6 mm rolled homogeneous armour (RHA) plates at 30° . The impact velocity was varied from 450-780 m s⁻¹ and the response of the system monitored by laser velocimetry, strain gauges and high-speed photography. This provided insight into the flexing of the rod during impact, the acceleration of the rear of the rod and the global penetration process. This experimental series involved ricochet, near-ricochet and full perforation, and so allows the sensitivity of the differing diagnostic outputs for these processes to be compared.

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