

Abstract Submitted
for the SHOCK07 Meeting of
The American Physical Society

Front Face Spall of Concrete ADAM COLLINS, DAVID CHAPMAN, WILLIAM PROUD, Cavendish Laboratory, University of Cambridge — Concrete cylinders (150 mm x 115 mm diameter) were impacted with half-inch steel spheres over a range of velocities (100 -500 m s⁻¹). Crater growth and debris cloud evolution were observed using high speed cameras aligned perpendicular and parallel to the impact direction. In-plane displacements of the impact face were tracked using Digital Speckle Photography (DSP). Radial cracking was seen to precede circumferential cracking on the high speed sequences and DSP showed bulk motion of fragments surrounding the impact zone. The profile images revealed no significant out-of-plane perturbations.

William Proud
Cavendish Laboratory, University of Cambridge

Date submitted: 23 Feb 2007

Electronic form version 1.4