

Abstract Submitted  
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**The effect of energy density on laser flyer velocity** H.R. BRIERLEY, Cavendish Laboratory, University of Cambridge, T.A. VINE, QinetiQ Ltd, Fort Halstead — Laser driven flyers are produced on the interaction of a laser pulse with a thin film of metal. When an Nd:YAG laser is focussed through a fused silica substrate onto a 5 micron layer of aluminium, a fraction of the metal is ablated. This causes the remaining aluminium to be punched from the film and launched as a discrete flyer. By varying the energy of the incident laser pulse, the velocity of the resulting flyer is changed. The Nd:YAG laser beam was spatially filtered to remove higher order modes. This improved the beam quality and reduced the focal spot diameter. The resulting higher energy densities led to faster flyer velocities for a given pulse energy.

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