Abstract Submitted for the SHOCK09 Meeting of The American Physical Society

Hypervelocity sub 10-micron impacts into aluminium foil: new experimental data and implications for comet 81P/Wild-2's dust fluence MARK C. PRICE, School of Physical Sciences, University of Kent, Canterbury, UK, ANTON T. KEARSLEY, IARC, Dept. of Mineralogy, The Natural History Museum, London, UK, MARK J. BURCHELL, School of Physical Sciences, University of Kent, Canterbury, UK, FRIEDRICH HORZ, LZ Technology/ECSG, Johnson Space Centre, Houston, TX, USA, MIKE J. COLE, School of Physical Sciences, University of Kent, Canterbury, UK — Recent experimental work (*Price, M. C. et. al., LPSC XXXX*, #1564, 2009) has shown that the lip-to-lip diameter of hypervelocity impact craters at micron-scales ($D_p < 10$ microns) is a non-linear function of the impactor's diameter (D_p). We present data for monodisperse silica projectiles impacting aluminium-1100 and elemental aluminium at 6.1 km\sec and discuss the implications of this effect for the Stardust fluence calibration for micron-scale particles (which make up the majority of the impactor flux). Hydrocodes have been used to investigate the potential causes of the phenomena and the results are presented.

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Date submitted: 25 Feb 2009 Electronic form version 1.4