

Abstract Submitted
for the SHOCK13 Meeting of
The American Physical Society

The Shock Response of Space Bears: The Ability of Life to Survive Some of the Most Extreme Environments Known to Man JONATHON PAINTER, JAMES LEIGHS, GARETH APPLEBY-THOMAS, Cranfield University, RACHAEL HAZAEL, PAUL MCMILLAN, University College London, REINHARDT KRISTENSEN, University of Copenhagen — There have been many recent discoveries of life forms living in environments previously thought to be completely uninhabitable. One particularly interesting discovery of this nature is the space bear or tardigrade. The name space bear is a colloquialism applied to the tardigrades because of a recent investigation which saw them being exposed to the vacuum of space and intense solar radiation, and surviving. Tardigrades have the ability to dehydrate themselves, entering a state called cryptobiosis. This state enables them to survive in the vacuum of space. A single stage gas gun has been employed to uniaxially shock load and subsequently recover tardigrades in both regular and cryptobiotic states. Loading histories were calculated via hydrocode modelling. Survival data is presented comparing shocked and control samples for tardigrades both in normal and cryptobiotic states.

James Leighs
Cranfield University

Date submitted: 21 Feb 2013

Electronic form version 1.4