

IAF MATERIALS AND STRUCTURES SYMPOSIUM (C2)

Smart Materials and Adaptive Structures & Specialized Technologies, Including Nanotechnology (9)

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REUSABLE SHAPE MEMORY SHOCK ABSORPTION ELEMENTS FOR SPACE USING ADDITIVE
MANUFACTURING

Abstract

shape memory alloy Nitinol and subject to compression loads – reheated and compressed for 15 cycles. The design of the lattices was previously optimized using NTop, in terms of mechanical behaviour and printability. The printing parameters are optimized in terms of precision, density of the part and overall quality of the print. A compromise between first energy absorption and energy absorption repeatability over 15 cycles will help in selecting the most appropriate lattice and print design.