

MATERIALS AND STRUCTURES SYMPOSIUM (C2)

New Materials and Structural Concepts (4)

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MATERIALS SELECTION CONSIDERATIONS FOR Z-PINCH PULSE-POWERED FUSION  
SYSTEMS FOR SPACE PROPULSION

**Abstract**

Z-pinch nuclear fusion concepts are being considered as a viable alternative for space propulsion. There are many issues and limitations, particularly materials selection issues, that must be addressed. This report will address the various components of the Z-pinch system and the material parameters and environmental conditions experienced, as well as propose several types of materials that can possibly satisfy the design parameters.