

PROJECT / Thermal Blanket with Low RF Reflectivity RFMLI

Main Objective:

The primary objective of this study is to propose a series of concepts based on metamaterials in combination with the typical materials used in thermal blankets in order to reduce the blanket's RF reflectivity in specific frequency ranges. Concepts will be explored at the C-, Ku, Ka and Q/V bands.

The new blankets are required to maintain their thermal and mechanical properties as much as possible and be designed with space flight in mind using space qualified clean-room compatible materials. Further requirements include cost effective fabrication compatibility, and reduced added mass compared to traditional multi-layer blankets.

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