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Abstract Formulary

Presentation type: **Oral** ✔ **Poster** ☐

Title: Polymer Aerogels: Advanced Porous Materials for Extreme Environments

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Institution (Presenter): NASA Glenn Research Center

ABSTRACT (Space limited to 2200 characters)

As the Space Community endeavors to reach new heights of exploration, materials for extreme environment are on the forefront of research. One such material would include polymer aerogels; lightweight solids with nano-scale pore size, high internal surface area, low thermal conductivity, and extremely high porosities. Due to these interesting properties, aerogels are ideal as thermal insulators but are by no means limited to this application. The high porosity and surface area also make aerogels an ideal host system for particle incorporation for applications such as IR filtration, uv absorption, and vibro-acoustic mitigating materials. Polymer aerogels also have the potential to combat issues found in extraterrestrial environments such as dust and radiation mitigation. Herein, current research will be discussed as it pertains to Space exploration.