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# Low-gravity experiments of lightweight flexible heat pipe panels with self-rewetting fluids.

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## Abstract

Fluids with a unique surface tension behavior, the so-called "self-rewetting fluids," are considered to be promising working fluids not only in reduced-gravity environments but also in terrestrial applications. Ultralightweight polyimide-based wickless heat pipe panels with flexible, inflatable, and deployable functions were fabricated using self-rewetting fluids. Fundamental operation tests of these panels were conducted under conditions of reduced gravity during parabolic flight. We obtained promising experimental results on the thermal performance of the panels in reduced gravity, although the experimental conditions were not entirely satisfactory.

## Author-supplied keywords

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