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Measurement of Thermal Conductivity of Some Candidate Regenerator Materials at Cryogenic Temperatures

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In this experimental study, the thermal conductivities of some regenerator materials that have recently been the focus of attention for incorporation in miniature or highly efficient Stirling and pulse tube cryocoolers are measured over a wide range of cryogenic temperatures. The experimental apparatus utilized for these experiments has been designed based on adaptation of the guarded-comparative-longitudinal heat flow technique (ASTM E1225-13).