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Search for the ac Josephson effect in superfluid He3

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Abstract

Experiments testing for the existence of the ac Josephson effect in superfluid He3, analogous to phenomena observed in superconducting microbridges, have been performed. Small holes were employed as the weak link between two reservoirs filled with He3; several different orifice geometries were tried. Simple model calculations suggest that steps in the flow characteristics should be observable with our resolution when an ac pressure modulation is applied across the weak link. We found that such effects do not exist for the parameter values used in our experiments. © 1983 The American Physical Society.

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