

Abstract Submitted
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Measurement of environmental impedance at plasma frequency of Josephson junctions with microwave induced escapes BO MAO, SIYUAN HAN, Department of Physics and Astronomy, University of Kansas — Impedance of electromagnetic environment of a Josephson junction is critical to its dynamics. We show that microwave induced escape rate of Josephson junctions as a function of microwave frequency and power provides an excellent quantitative measurement of the environmental impedance at plasma frequency of the junction. It is shown that in strong microwave fields the effect of anharmonicity of the junction's potential well must be taken into account. Direct comparison of experimental result with numerical simulation allows one to extract environmental impedance at junction's plasma frequency.

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