Abstracts

Thermal Lowering of the Threshold for Microwave Breakdown in Air-Filled Waveguides

D.G. Anderson, M. Lisak and P.T. Lewin. "Thermal Lowering of the Threshold for Microwave Breakdown in Air-Filled Waveguides." 1987 Transactions on Microwave Theory and Techniques 35.7 (Jul. 1987 [T-MTT]): 653-656.

It is demonstrated that the presence of absorbing inhomogeneities in an air-filled microwave waveguide may significantly lower the threshold for microwave breakdown. The underlying physical mechanism is locally enhanced microwave absorption and subsequent heating of the waveguide air. The results provide an explanation of the fact that break-down thresholds of microwave transmission systems are observed to be much lower than theoretical predictions.

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