Abstracts

Broad-Band Calorimeters for the Measurement of Low and Medium Level Microwave Power II.Construction and Performance

A.V. James and L.O. Sweet. "Broad-Band Calorimeters for the Measurement of Low and Medium Level Microwave Power II.Construction and Performance." 1958 Transactions on Microwave Theory and Techniques 6.2 (Apr. 1958 [T-MTT]): 195-202.

The construction and performance of a series of rugged, broad-band twin-Joule calorimeters, using dry loads, are described.These calorimeters operate over the frequency range of 0 to 75,000mc. The over-all measurement error, computed as the rms value of the maximum individual errors from known independent sources, is shown to lie between 1 and 2½ per cent for power levels between 1 and 100mw. Power measuring techniques are discussed and a method using the heating and cooling cycle of the calorimeter is described in detail. Power comparison measurements between the calorimeters and several bolometer mounts illustrate the increasing inefficiency of bolometer mounts with increasing frequency.

❑ Return to main document.