# Abstracts

## An overmoded coaxial buncher cavity for a 100-MW gyroklystron

*M. Castle, J. Anderson, W. Lawson and G.P. Saraph. "An overmoded coaxial buncher cavity for a 100-MW gyroklystron." 1998 Microwave and Guided Wave Letters 8.9 (Sep. 1998 [MGWL]): 302-304.*

An overmoded abrupt transition coaxial buncher cavity has been designed and experimentally cold tested for use in a second-harmonic 17.136-GHz three-cavity 100-MW gyroklystron. Circuit efficiencies of 41% can be achieved with a buncher cavity that has a quality factor of 389 in the TE/sub 021/ mode. Scattering matrix and finite-element codes were used to design and model the cavity theoretically and to determine that the cavity would be stable to oscillation. The experimental cold testing confirmed these results and refined the final dimensions from the theoretical models.

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