# Abstracts

## Maser Operation at Signal Frequencies Higher than Pump Frequency

*F.R. Arams. "Maser Operation at Signal Frequencies Higher than Pump Frequency." 1961 Transactions on Microwave Theory and Techniques 9.1 (Jan. 1961 [T-MTT]): 68-72.*

Methods using harmonic spin coupling for operating solid-state masers with signal frequencies higher than the pump frequency are discussed. Expressions for the population inversion ratios are presented, and the maximum signal-to-pump-frequency ratios are calculated. Experimental data is presented on a ruby maser which is operated using the symmetrical method. Amplification was obtained at signal frequencies from 10,320 to 10,740 Mc, using pump frequencies ranging from 9580 to 9670 Mc. An experiment in which maser operation is obtained simultaneously at two frequencies is described.

❑ Return to main document.