Abstracts

Tunable superconducting resonators using ferrite substrates

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Tunable superconducting resonators have been demonstrated using microstrip circuits of YBCO at 77 K and niobium at 4 K coupled to polycrystalline magnetic garnet substrates. At X band and 77 K, a tuning range /spl Delta/f/f of greater than 3% and Q of 2500 have been demonstrated in applied fields of 100 Oe for YBCO. The figure of merit 2Q/spl Delta/f/f is 175. For niobium at 4 K a Q of 5000 has been demonstrated and a figure of merit of 288. An analytical model gives good agreement with the measurements.

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