Abstracts

A new high-temperature superconducting double-hybrid coupler with wide bandwidth

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We report on the design and performance of new high-temperature superconducting couplers fabricated in microstrip technology. We present experimental results for a 3 dB- and a 0 dB-coupler (i.e. a crossover device) at 10 GHz. The planar coupler structures were patterned into YBaCuO thin films deposited on MgO substrates on both sides. As a design tool, we employed a commercial microwave simulation program. Verification was done using special test chips. We attained extremely low insertion loss values over bandwidths of 45 per cent (3 dB-coupler) and 30 per cent (0 dB-coupler), respectively.

❑ Return to main document.