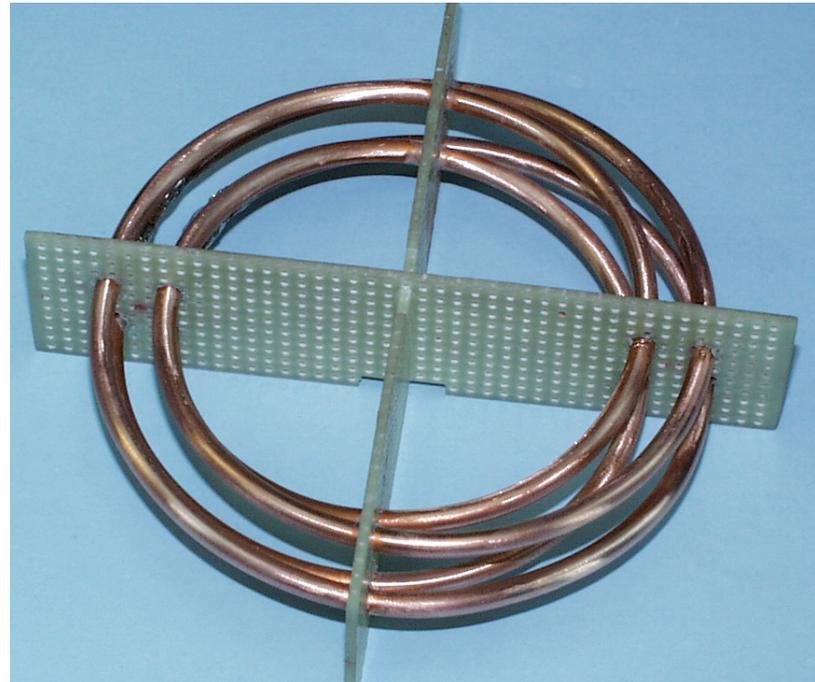


Möbius Filters

IEEE Trans. Microwave Theory and Tech., vol. 49, no. 12, pp. 2363-2368, Dec. 2001.

- **530 MHz four-pole filter with a single quad-mode Möbius resonator**

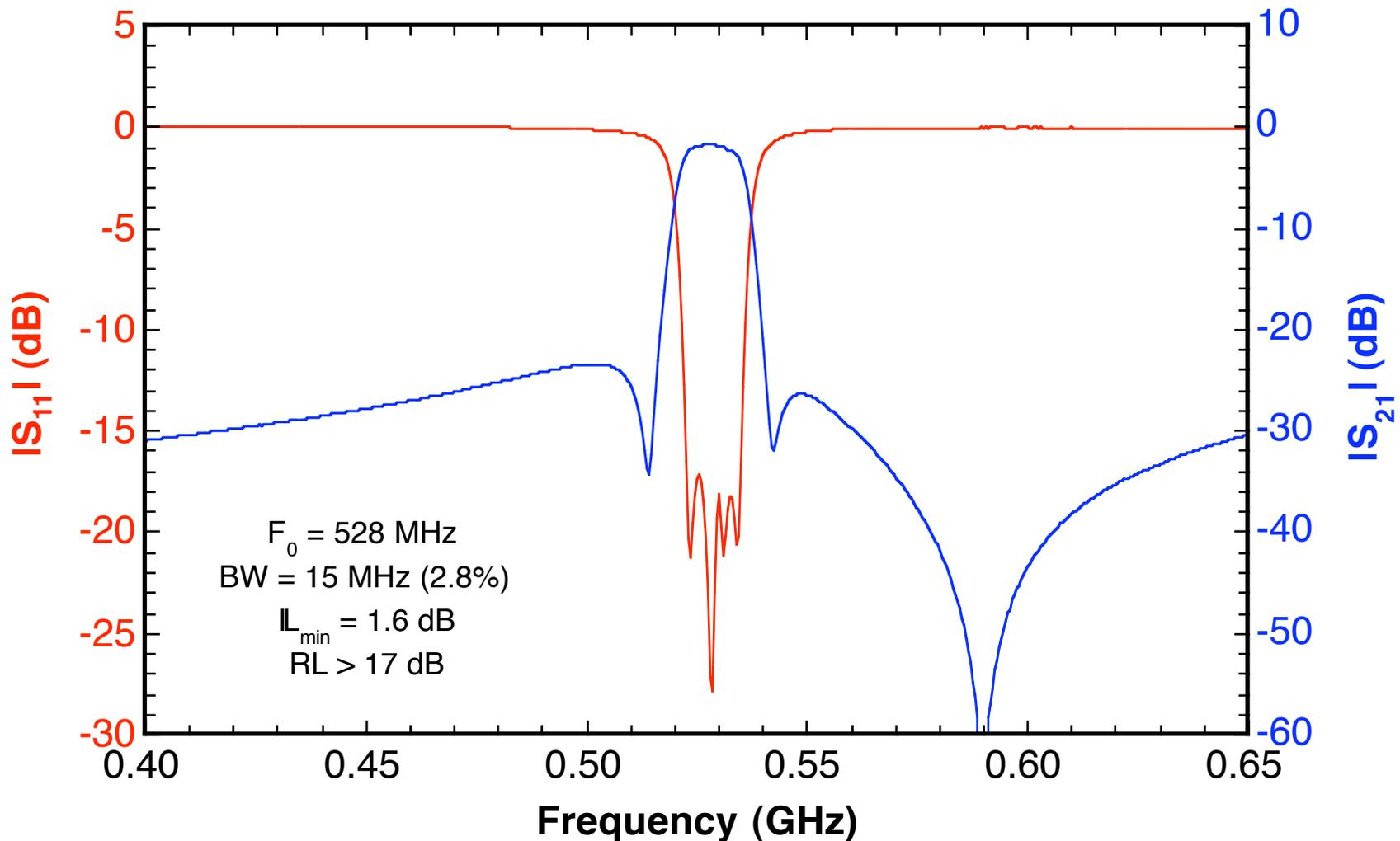
- consists of two interleaved dual-mode Möbius resonators
- realized with two 0.358-cm diameter, 24.8-cm-long copper wires inserted in an 11.43-cm diameter Al cavity
- tuning accomplished with metal tuning screws in both the end walls and cylinder wall of the Al cavity



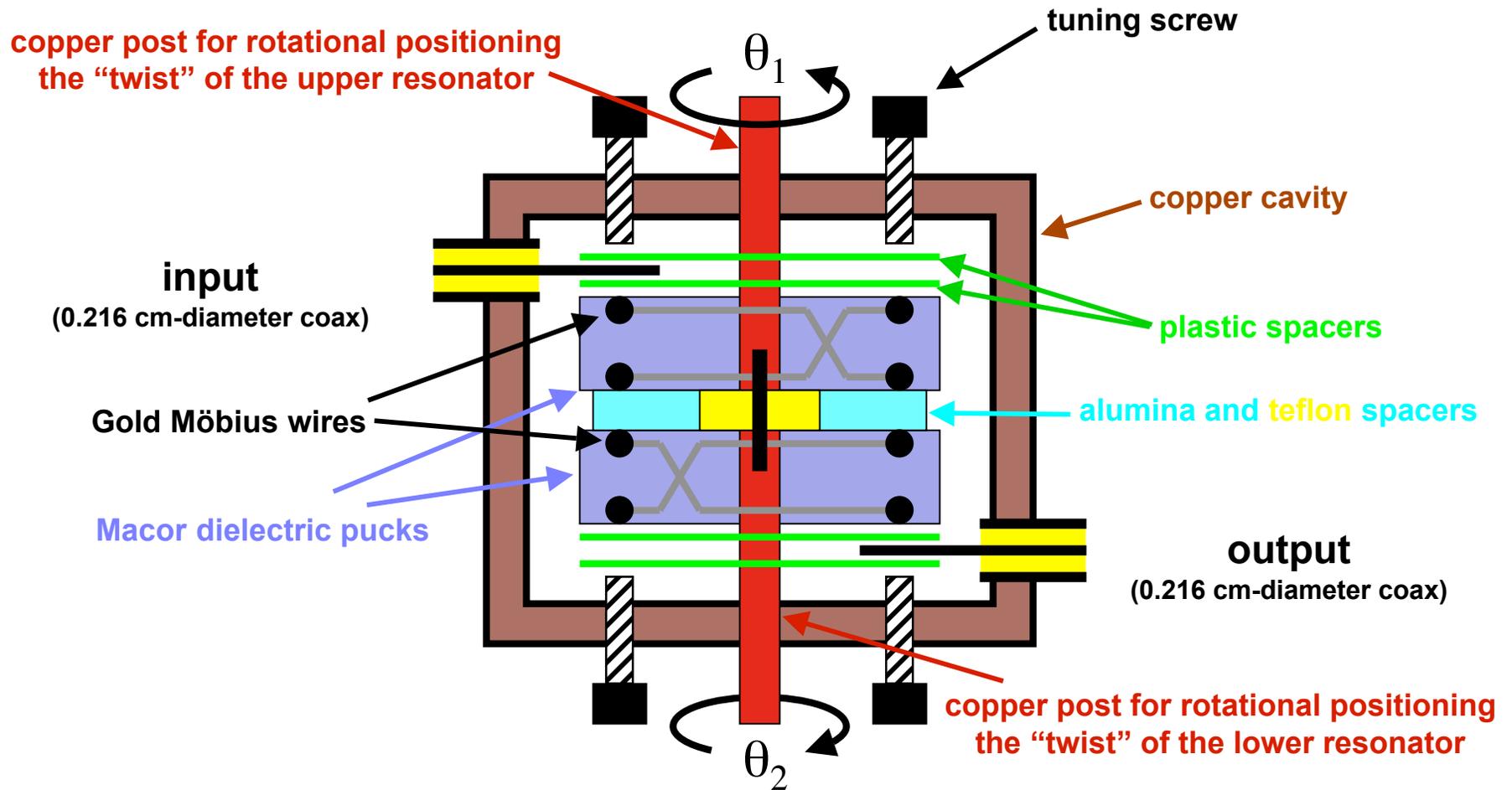
- **Four-pole four-zero filter with Macor ($\epsilon_r = 5$) dielectric**

- two cascaded two-pole, two-zero dielectric-loaded Möbius resonators
- further volume reduction realized through phase velocity reduction associated with the dielectric

Measured response of the tuned four-pole filter assembled from a single quad-mode resonator



Four-pole filter realized with two cascaded two-pole, two-zero dielectric-loaded Möbius resonators



Measured performance of the Macor-loaded tuned filter

