Abstracts

Multi-layer spatial angular filter with air gap tuner to suppress the grating lobes of microstrip patch arrays

Youngju Lee, Sung Hun Jeong, Wee Sang Park, Jae Seung Yun and Soon Ik Jeon. "Multi-layer spatial angular filter with air gap tuner to suppress the grating lobes of microstrip patch arrays." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 1329-1332 vol.2.

In this paper, we propose a multi-layer spatial angular filter containing periodically high and low permittivity dielectric layers and air gap tuners to suppress the grating lobes of microstrip patch antennas. When the filter is applied to a 16/spl times/16 phased array with many grating lobes due to the 2.8 /spl lambda/ spacing between adjacent phase shifters, we show that the grating lobes, which induce interference among satellites, are completely eliminated outside the /spl plusmn/30/spl deg/ range.

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