Abstracts

Steerable phased array antennas using single-crystal YIG phase shifters-theory and experiments

H. How, Ping Shi, C. Vittoria, E. Hokanson, M.H. Champion, L.C. Kempel and K.D. Trott. "Steerable phased array antennas using single-crystal YIG phase shifters-theory and experiments." 2000 Transactions on Microwave Theory and Techniques 48.9 (Sep. 2000 [T-MTT] (Mini-Special Issue on Research Reported at the 8th Topical Meeting on Electrical Performance of Electronic Packaging (EPEP) 1999)): 1544-1549.

A phased array antenna containing four linear microstrip patch elements has been fabricated and tested. The elements were fed through single-crystal yttrium-iron-garnet (YIG) phase shifters. By varying the bias magnetic field, the input phases to the antenna elements can thus been tuned, resulting in steering of the radiation beam in one dimension. Measurements compared reasonably well with calculations.

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