

Predicted performance of Magnetized Semiconductor Phase Shifters for Millimeter-wave Microstrip Array Antennas

Sheikh, S.I. and Dawoud, M.M (2005). IEEE Microwave and Wireless Components Letters, 15 (11). pp. 790-792. ISSN 1531-1309

Abstract

Abstract—The tunable phase shift of a planar magnetized semiconductor phase shifter is presented, suitable for an integrated environment due to its miniature size, low-biasing requirements, and lower material related problems at millimeter-wave frequencies. A linear microstrip phased array antenna with an integrated semiconductor phase shifter is designed and the calculated beam steering properties are tabulated. The design process is verified by simulating similar ferrite-based linear phased array antennas.