Abstracts

Cavity induced polarisation switching in a slot-loop active antenna

Q. Chen, M. Zheng, V.F. Fusco and P.S. Hall. "Cavity induced polarisation switching in a slot-loop active antenna." 1998 MTT-S International Microwave Symposium Digest 98.3 (1998 Vol. III [MWSYM]): 1899-1902.

The new features of a cavity backed active slot-loop antenna are discussed in this paper. By using a high Q cavity, 35 dBc phase noise level reduction at 200 kHz from the carrier has been achieved. Once in resonance, the established TE/sub 110/ cavity fields rotate the principle E-plane of the slot-loop antenna through 90/spl deg/. This results in an exchange of E- and H-plane locations in the radiation pattern together with reduced cross-polarisation levels. Thus the presence of the cavity tuned into and out of resonance allows the antenna to have its polarisation properties orthogonally switched.

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