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Microstrip phase shifter using Fe as the active element ANDREW HUTCHISON, UCCS, YURI KHIVINTSEV, BIJOY KUANAR, IAN HARWARD, ZBIGNIEW CELINSKI, ROBERT CAMLEY, UCCS TEAM — In this work, we investigate the performance of microstrip phase shifters using FMR effects of an iron film. Using standard techniques, Fe films of thickness varying from 100nm to 800nm were placed between the signal line and dielectric. This geometry may be constructed in one technological step. For a microstrip line with 100 nm iron the frequencies providing the maximum performance were at 8 and 27 GHz over a magnetic field range of 0.08 to 2.77 kOe. For an Fe film of 800 nm, the best performance was found at 10 and 45 GHz. In this case, the high-frequency differential phase shift had a weaker frequency dependence suitable for broadband applications.

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