Dual frequency circularly polarised microstrip antenna

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Abstract: A dual frequency and dual circular polarisation multilayer microstrip antenna element for satellite communication is presented. The element is fed by a gap-coupled probe pin. The microstrip element exhibits a dual frequency band of operation for two orthogonal circular polarisations. A parametric study to optimise the element performance has been conducted. A prototype with dimensions that are based on the simulations has been built and tested. A good agreement between the measured and numerical results was found.