

An Optimized Slotted Pillar Supported Capacitive Loaded Monocone Antenna Design For Pragmatic Aerial Platform

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The pioneering area of research in Aerospace requires an ideal Antenna with proper placement. Vehicles such as UAV(Unmanned Aerial Vehicle) are remotely controlled and guided. This paves way for a structure to be placed on the wings. Monocone Antenna are extensively used for placement on the wings. Though they exhibit a simple structure, the downside challenges arises in terms of gain, directivity, limitations in number of bands and it also requires a pre requisite improvement of aerodynamic feature. This paper proposes a multistage variations imposed on a simple structure enhancing the metrics. The capacitive loading strategy improves bandwidth upto 50%. A novel slot feature is introduced and the number of bands are increased from single band to octave band. Aerodynamic feature is also improved. Another primary concern is to yield more return loss which is achieved by a pillar structure that serves both supportive feature and also increases return loss upto -20dB. Finally, this paper is intended to propose an optimized Monocone Antenna with refined features solving the problems and issues with better performance and capabilities.

