

OPTIMIZATION OF A COPLANAR WAVEGUIDE-FED ULTRA-WIDEBAND MONOPOLE-LIKE SLOT ANTENNA

E. Ssebagala

Abstract

The design of ultrawideband phased antenna arrays is very important in applications like surveillance and security systems, where the real-time reconfigurability of radiation properties of the antenna is required. In order to avoid the presence of grating lobes in the array pattern, the distance between adjacent elements must be smaller than " $\lambda/2$ " at the highest operational frequency. Therefore, the design of electrically small UWB elements able to satisfy such a constraint is mandatory.

In this framework, the objective of the project activity is the optimization of the "Coplanar Waveguide-Fed Ultra-Wideband Monopole-Like Slot Antenna" in order to:

- match the antenna over the UWB bandwidth 6-18 [Ghz]
- obtain an antenna with an electrical size $\leq \lambda/2$ @ 18 [Ghz] ($\lambda/2$ @ 18 [Ghz] ~ 8.2 [mm])
- maximize the antenna gain over the band of interest

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Supervisors: Prof. Andrea Massa, Dr. Matteo Carlin.*