

Slot Loaded Circular Patch Antenna

Slot loaded circular patch antenna is simulated in FEKO to show the resulting decrease of the resonant frequency

Here a slot loaded circular patch antenna is considered to show how a pin fed patch antenna is simulated in FEKO. It is shown in [1] that by loading a circular patch with a number of slots, the resonant frequency of the antenna can be decreased. That is the required size for a certain resonant frequency is reduced. Figure 1 shows the simulation model of such a slot loaded circular patch (pin feed in red) which reduces the resonant frequency from 7.7GHz to 5.1GHz. The patch resides on a dielectric with $\epsilon_r = 2.6$ which is modeled with a Green function layer.

Figure 1: Simulation model of slot loaded circular patch antenna.
Pin feed shown in red.

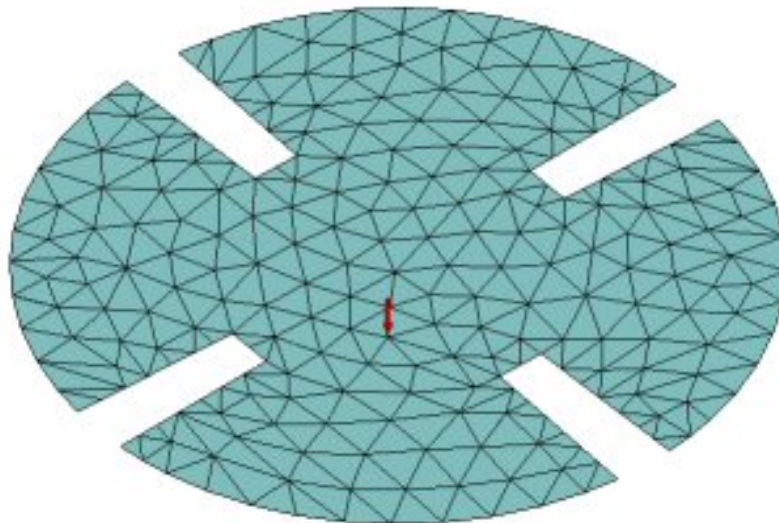
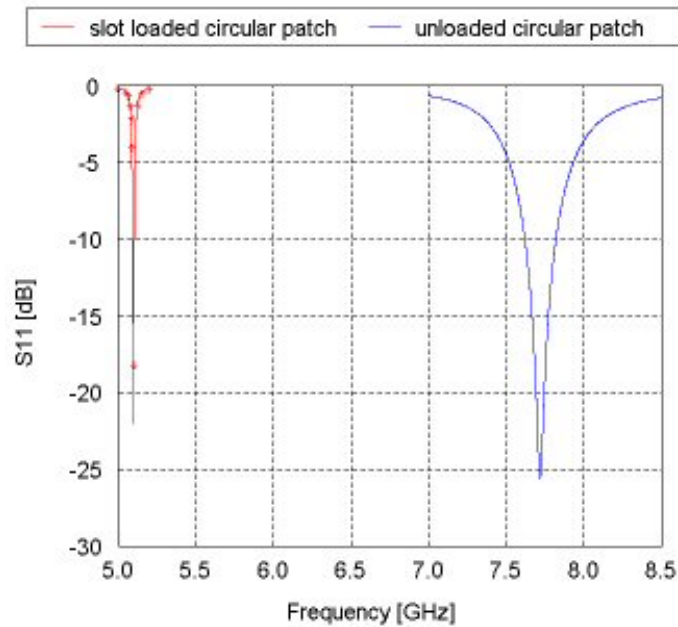


Figure 2 compares the reflection coefficient at the feed point of the slot loaded antenna to that of the unloaded circular patch.

Figure 2: Resonant frequencies of the slot loaded and unloaded antennas are compared



As shown in [1] the resonant frequency is reduced substantially and also the -10dB bandwidth is reduced.

References

- [1] C.B. Ravipati, "Compact Circular Microstrip Antenna for Conical Patterns", *Antennas and Propagation Society International Symposium*, 2004.

