

Sintesi e ottimizzazione di antenne UWB spline tramite Particle Swarm Optimizer

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Abstract

La tecnologia UWB si basa sulla trasmissione di impulsi dotati di una banda molto estesa, e richiede che le antenne impiegate assicurino la minore distorsione possibile di tali impulsi.

L'attività ha lo scopo di illustrare allo studente le tecniche di sintesi sviluppate in ELEDIA nell'ambito della realizzazione di antenne UWB basate su geometria "spline". Particolare attenzione viene fatta all'analisi nel dominio del tempo, ottenuta mediante il software di simulazione CST, che permette di ottimizzare non soltanto l'andamento del coefficiente di riflessione, ma anche parametri temporali come la distorsione tra l'impulso trasmesso e ricevuto ("system fidelity").

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