

PEEC Modeling of Planar Spiral Resonators

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Abstract:

The partial element equivalent circuit (PEEC) method is applied to a frequency-sweep study for investigating the resonant modes of planar spiral resonators. A low-rank approximation algorithm, based on hierarchical matrices, is coupled to the method in order to reduce the computational effort due to the use of dense matrices. The partitioning of the matrices is carefully addressed in order to allow an efficient hierarchical off-diagonal low-rank structure of the system matrix.