Abstracts

HTS microstrip filters with multiple symmetric and asymmetric prescribed transmission zeros

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The realizations of multiple transmission zeros with High-Temperature Superconductor (HTS) microstrip lumped element narrow band filter is described. The filter design is based on the cascading of tri-sections to implement symmetrical or asymmetrical transmission zeros. The advantage of using tri-section in HTS microstrip narrow band filter design is that the value of the cross coupling is much bigger than that of the symmetric quadruplet, which is easier for practical realization. In addition, each zero is independent controlled by one cross coupling and thus the effects of the parasitic can be compensated. Basic cross-coupling structures are summarized for thin-film HTS filter, and several design examples with measured results are presented to demonstrate the design.

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