A Study of Multilayer Microwave Absorber

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ABSTRACT

The multilayer microwave absorber is often required to provide a specified reflectivity performance over a wide frequency range and it''s usually constrained by factors such as weight, cost, thickness and environmental survivability. The four parameters that would affect the characteristics of absorbers are the number of sections, the material of spacer, distances between layers and screen characteristics. The screen characteristics are analyzed and discussed in this thesis. The Simplex search method, is adopted to look for optimal absorbing behavior for the absorbers of Butterworth or Equiripple response, A new optimization scheme, which also employs the Simplex search method, is developed to synthesize absorbers with wider bandwidths than those of Butterworth and Equiripple responses for a given level of reflectivity using minimum number of resistive-sheet layers.

Keywords : Simplex Search Method ; Microwave Absorbers ; Multilayer Absorbers

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