Multiple-Post Inductive Obstacles in Rectangular Waveguide

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Abstract —A complete analysis of multiple-post inductive obstacles in rectangular waveguide is presented. A moment method solution with exponential ($e^{jn\theta}$) expansion and weighting functions is used in a Galerkin solution. Post currents are expressed as a Fourier series. As many Fourier series terms ($e^{jn\theta}$) as desired may be included. All higher order (cutoff) mode interactions between posts are taken into account. The solution is rapid and accurate, and errors may be controlled (specified). Data are given for the triple-post obstacle and for a two-element filter.