Abstracts

An improved algorithm of constructing potentials from Cauchy data and its application in synthesis of nonuniform transmission lines

It is required to construct a potential function from Cauchy data in the synthesis of arbitrarily terminated nonuniform transmission lines. An improved algorithm for this problem is discussed in this paper. With the proposed algorithm, not only is computation time reduced, but the possible divergence of the potential function that sometimes occur when adopting the successive approximation method is also avoided. It has been applied successfully to designs of nonuniform transmission-line filters or tapers through solving inverse problems.