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RC Active Network Synthesis

Takao SUMI*

The passive networks using only resistive and capacitive elements are attractive for reasons of size, cost and reliability, but the passive *RC* networks essentially suffer from high losses and also has the serious limitation on the poles of the transfer function, therefore the practical use are restricted. To eliminate these defects using the active elements are useful, and so, the *RC* network has characteristics of equivalent *RLC* networks. This paper presents some theoretical and practical results in the synthesis of parallel active *RC* networks proposed by Yanagisawa.

Otherwise the delay-characteristics represented by the positions of the poles and zeros on the parallel arrangement was proposed as a method of realizing the linear phase characteristics, and approximated as the conventional maximally flat characteristics. Moreover we have decided the transfer function of all-pass networks specified by these poles and zeros, and established the synthesis method of any stage transfer function.

*角 孝 夫