New circuit solutions of fourth-order notch filters

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Abstract

The circuit design solutions of a new subclass of fourth-order notch filters (NF) are considered, which are implemented on operational amplifiers by sequentially connecting identical second-order links of NF. Equations for their main parameters are given. In the Micro-Cap environment, computer simulation of the amplitude-frequency characteristics was performed, which shows the possibility of independent adjustment of the quality factor of the pole, the frequency of the pole, and the NF transfer coefficient. The proposed circuits differ in the circuitry of the links, as well as in the ways of introducing feedback and options for connecting the input signal source.

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