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Factorizational Synthesis of SAW Bandpass Filters

Outline

1. Optimum Approximation Problem

- 1.1. Statement of the problem
- 1.2. Basic SAW filter synthesis approaches

2. Properties of SAW Transducers

- 2.1. Frequency response of a periodic SAW transducer
- 2.2. Element factor and array factor
- 2.3. Symmetry and periodicity of the array factor
- 2.4. SAW filters with linear phase response

3. Z-Transform and SAW Filter Response

- 3.1. Z-transform roots and their properties
- 3.2. Elemental frequency response of a Z-transform root

4. Factorizational Synthesis

- 4.1. Zero separation algorithms
- 4.2. Factorization features of different SAW filters
 - 4.2.1. Linear phase SAW filters
 - 4.2.2. Non-linear phase SAW filters
 - 4.2.3. Suboptimum minimum-phase SAW filters
 - 4.2.4. Optimum minimum-phase SAW filters
- 4.3. Practical implementation of the factorizational synthesis
 - 4.3.1. Roots searching algorithm
 - 4.3.2. Flow-chart of the root searching program
- 4.4. Design example, simulated and experimental results

5. Conclusions