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Design of SPUDT and RSPUDT SAW Filters

Outline

1. Single Phase Unidirectional SAW Transducer (SPUDT)

- 1.1. Statement of the problem
- 1.2. Basic equations and SPUDT properties
- 1.3. Reflection and transduction centers
- 1.3. SPUDT directivity
- 1.4. Basic types of SPUDT cells
- 1.5. Properties of SPUDT cells
- 1.6. Resonant SPUDT (RSPUDT)
- 1.7. Reflection coefficient

2. SPUDT Design

- 2.1. Design goal
- 2.2. Assumptions and simplifications
- 2.3. SPUDT synthesis algorithm
- 2.4. Insertion loss analysis

3. SPUDT Modeling

- 3.1. SPUDT region partition
- 3.2. Cascading elemental cells
- 3.3. Recurrent cascading relations

4. SPUDT Design and Modeling Example

- 4.1. SPUDT SAW filter specifications
- 4.2. Input SPUDT synthesis
- 4.3. Output SPUDT synthesis
- 4.4. Modeled and Experimental Results

5. RSPUDT Optimization

- 5.1. Statement of the optimization problem
- 5.2. RSPUDT design flow-chart
- 5.3. RSPUDT design example

6. Conclusions