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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

5. RSPUDT Optimization

6. Conclusions