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Simulation of Multiport/Multitransducer Surface Acoustic Wave Devices

Outline

1. Multiport Nodal Analysis in Quasi-Static Approximation

- 1.1. Statement of the problem
- 1.2. Three-port representation of a SAW transducer
- 1.3. Mixed- scattering matrix (**P**-matrix)
- 1.4. Terminal currents and voltages
- 1.5. Inter-transducer admittance matrix

2. Mixed Scattering Matrix Simulation of Multiport System

- 2.1. Statement of the problem
- 2.2. Block-matrix solution
- 2.3. Particular case (loading by two-port junctions)

3. SAW Resonator Modeling

- 2.1. One-port resonator
- 2.2. Two-port resonator

4. Conclusions