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**Charge Distribution and Capacitance Calculation  
for Generalized Periodic SAW Transducers**

**Outline**

**1. Phased Array Transducer: Properties and Equations**

- 1.1. Statement of the problem
- 1.2. Basic analytic equations

**2. Periodic SAW Transducers**

- 2.1. Calculation of the surface charge density distribution
- 2.2. Integral equations
  - 2.2.1. Interrelation of electrode voltages and charges
  - 2.2.2. Capacitance and potential matrices
- 2.3. Static capacitance

**3. Mixed electrostatic problem**

- 3.1. Statement of the problem
- 3.2. General solution
- 3.3. Transducers with floating fingers

**4. End effect modeling**

**5. Conclusions**