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Modeling single-electron resonances of electric-field-sensitive scanning probes[1] STUART TESSMER, Michigan State University, IRMA KULJANISHVILI, Northwestern University, MOREWELL GASSELLER, Michigan State University — Electric-field sensitive scanning probe methods have proven to be valuable tools to study nanoelectronics systems. We have developed a modeling method suitable to analyze single-electron resonances detected by these techniques. The method is based on basic electrostatics and a numerical boundary-element approach. The results compare well with experimental single-electron capacitance-voltage curves and capacitance images.

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