Modeling single-electron resonances of electric-field-sensitive scanning probes\textsuperscript{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.

\textsuperscript{1}This work was supported by the NSF under grant nos. DMR-0305461, DMR-0906939 and the Michigan State Institute for Quantum Sciences.