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*Two-Phase Free Boundary Problems for Harmonic Measure*

In this talk we give a (two-phase) potential theoretic characterization of two-sided vanishing chord arc domains under minimal background hypotheses. This problem is most closely related to the work of Kenig and Toro, where they show a similar result under stronger topological assumptions. We are able to dispense with these topological assumptions by using powerful tools from classical geometric analysis combined with techniques coming from the theory of uniformly rectifiable sets (introduced by David and Semmes). This is joint work with Max Engelstein, Max Goering, Tatiana Toro and Zihui Zhao.