

Abstract Submitted  
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**Scanning thermal microscopy using electrical measurements**<sup>1</sup> ABHAY SHASTRY, SOSUKE INUI, CHARLES STAFFORD, Univ of Arizona — The local temperature and voltage of a quantum system out of equilibrium is defined via a floating probe<sup>2</sup> operating in the tunneling regime. However, experimental difficulties in thermally isolating the probe have limited the spatial resolution of scanning thermal microscopy. We now propose a method to measure the temperature using only electrical measurements in systems obeying the Wiedemann-Franz law. The method significantly advances the spatial resolution and accuracy of scanning thermal microscopy, bringing it to the previously inaccessible tunneling regime.

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<sup>2</sup>Abhay Shastry and Charles Stafford, Physical Review B 94, 155433 (2016)

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