Abstract Submitted
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Superconducting-Tip STM on Cobaltates as a Platform for Exploring Topological Superconductivity[1] ALEX W. CONTRYMAN, FRANCIS NIESTEMSKI, YULIN CHEN, Stanford University, THORSTEN HESJEDAL, Oxford University, CAROLINA PARRA, SUK BUM CHUNG, HAI-JUN ZHANG, Z.X. SHEN, SHOU-CHENG ZHANG, HARI C. MANOHARAN, Stanford University — In recent years, Na_xCoO_2 has attracted much attention for its unconventional superconductivity and antiferromagnetic phases. More recently it has been proposed that inducing superconductivity into the stoichiometric compound through the proximity effect could lead to topological superconductivity where Majorana physics might be accessed. We first explore this surface state with standard scanning tunneling spectroscopy and tuning fork-based atomic force microscopy, and then investigate the proximity effect scenario by introducing a superconducting tip to probe the superconductor-vacuum-topological junction.

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Alex W. Contryman
Stanford University

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