

Abstract Submitted  
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**Andreev Edge State on Semi-Infinite Triangular Lattice: Detecting the Pairing Symmetry in  $\text{Na}_{0.35}\text{CoO}_2 \cdot y\text{H}_2\text{O}$**  TAMAR PEREG-BARNEA, University of British Columbia, HSIU-HAU LIN, Physics Division, National Center for Theoretical Sciences, Taiwan — We study the Andreev edge state on the semi-infinite triangular lattice with different pairing symmetries and boundary topologies. We find a rich phase diagram of zero energy Andreev edge states that is a unique fingerprint of each of the possible pairing symmetries. We propose to pin down the pairing symmetry in recently discovered  $\text{Na}_x\text{CoO}_2$  material by the Fourier-transformed scanning tunneling spectroscopy for the edge state. A surprisingly rich phase diagram is found and explained by a general gauge argument and mapping to 1D tight-binding model. Extensions of this work are discussed at the end. ref: cond-mat/0407187

Tamar Pereg-Barnea  
University of British Columbia

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