

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Microscopic analysis of protected edges without symmetry SRI-
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University of Chicago — The $\nu = 2/3$ fractional quantum Hall state has been shown
to have protected gapless edge modes even if all symmetries are broken, including
charge conservation. In this talk, we investigate the robustness of these edge modes
in a concrete model. The model we consider describes a $2/3$ edge that is strongly
proximity-coupled to an adjacent superconductor. Our model clarifies the obstruc-
tion to gapping the edge and provides insights into the corresponding anomaly —
which is beyond the U(1) chiral anomaly associated with charge conservation sym-
metry. As a by-product of this analysis, we derive edge theories for Abelian quantum
Hall states without any U(1) symmetries.

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Date submitted: 11 Nov 2016

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