

Abstract Submitted
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Near-Zero Modes in Superconducting Graphene POUYAN
GHAEMI, FRANK WILCZEK, Massachusetts Institute of Technology — Vortices
in the simplest superconducting state of graphene contain very low energy excita-
tions, whose existence is connected to an index theorem that applies strictly to an
approximate form of the relevant Bogoliubov-deGennes equations. When Zeeman
interactions are taken into account, the zero modes required by the index theorem
are (slightly) displaced. Thus the vortices acquire internal structure; the resulting
“modicules” obey nonabelian quantum statistics.

Pouyan Ghaemi
Massachusetts Institute of Technology

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