Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Spin signature of Majorana zero modes in a Shiba chain[1] JIAN LI, ALI YAZDANI, B. ANDREI BERNEVIG, Princeton University — We propose as a robust and definite spin signature to distinguish Majorana zero modes from trivial Shiba states accidentally tuned to zero energy due to strong local potential. This signature is rooted in two sum rules that dictate the distribution of spin densities in a superconducting state with respect to a normal state, and can be straightforwardly detected with the spin-polarized scanning tunneling microscope technique which implicitly takes advantage of these sum rules.

[1]The authors acknowledge support from ONR Grant No. N00014-14-1-0330, ARO Grant No. MURI W911NF- 12-1-0461, NSF Grant No. DMR-1420541 (Princeton MRSEC).

Jian Li
Princeton University

Date submitted: 11 Nov 2016 Electronic form version 1.4