

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Spin-charge separation of edge zero modes in one dimension

ZHANG DANBO, WANG ZIDAN, Department of Physics, the University of HongKong — We propose a new type of edge zero modes that exhibit spin-charge separation, which can be realized at the boundaries in an exotic one dimensional topological matter that is both fermionic Haldane insulator and topological superconductor. We give a lattice model to illustrate the nature of edge zero modes, both from bosonization and mean-field analysis. Finally, We find that Haldane phase of spin-1 chain also owns spin-charge separation of edge zero modes when mapped into fermionic system by Jordan-Wigner transformation.

Zhang Danbo
Department of Physics, the University of HongKong

Date submitted: 02 Nov 2015

Electronic form version 1.4