Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Anyon structure of fractional topological insulating slabs with gapped surfaces ALEXANDER SIROTA, SHARMISTHA SAHOO, JEFFREY C.Y. TEO, Univ of Virginia, GIL YOUNG CHO, Korea Advanced Institute of Science and Technology — We consider fractional topological insulators (FTI) in three dimensions whose bulk quasiparticle excitations consist of partons coupled with a Z_{2n+1} gauge theory. Their surface states can acquire an excitation energy gap by either breaking time reversal symmetry, charge $U(1)$ symmetry, or preserving both symmetries while introducing additional T-Pfaffian-like surface topological order. We theoretically study the anyon and symmetry structures of these gapped surface states as well as quasi-$(2+1)$D slabs of FTI with distinct opposite gapped surfaces.

Alexander Sirota
Univ of Virginia

Date submitted: 11 Nov 2016 Electronic form version 1.4