

Week 3 (due Jan. 24)

1. (a) (10 pts) Consider a field in 2+1d space-time transforming as a two-component real spinor representation (see problem 1 of Week 2 HW). Write down a free Lagrangian for it so that the corresponding theory describes a particle of mass m .

(b) (30 pts) Analyze this theory as regards discrete symmetries C , P and T . Assume that m is nonzero.

2. (30 pts) Problem 36.5 in Srednicki.