Chapter 49: The Feynman Rules for Majorana Fields
Overview

• Recall that Majorana fields are particles which are their own antiparticle
  • The fields in the lower spinor is just the Hermitian conjugate of the upper spinor

• Are slides really needed for this? We use the LSZ rules to compute correlation functions, work out the amplitudes from there, and then generalize to a set of Feynman Rules.
  • The only real wrinkle is taking advantage of the extra “degrees of freedom” (four LSZ rules for only two independent fields) to write rules in a way that there are no charge conjugation matrices.

• These rules give similar but different results from the Dirac case.
Status

• In analogy with Part I, we’ve gotten the Feynman Rules down.
  • Next is to consider the remaining cases: massless particles and loops

• We’ve already talked about symmetries as we’ve been going along.

• All that remains is beta functions and a new topic, “functional determinants.”
  • Then we’ll be in Part III!