QFT

Chapter 60: Spinor helicity for spinor electrodynamics

Twistor notation revisited

- Recall in chapter 50, we were able to make some simplifications for *massless* particles:
  - $|p\rangle = u_+(p)$, for example

- This is great because we can follow our bra-ket intuition, see problem 50.1(b).
  - It is easy to derive a bunch of identities for this; see the chapter.
  - This makes calculating matrix elements much easier.

- We can also introduce the Mandelstam variables with:
  - $s_{12} = -(p_1 + p_2)^2 = \langle 1\ 2\rangle\ [2\ 1]$
  - It's not *a priori* clear which ones correspond to s, t, u, but this is clear in the context of a particular process.
  - We also have $s_{12} + s_{12} + s_{14} = 0$; this is true for any permutation.