

QFT

Chapter 68: Ward Identities in Quantum Electrodynamics II

Overview

- This time we use the Ward Identity again to make some more proofs about the renormalization factors.
 - $Z_1 = Z_2$ for spinor electrodynamics
 - $Z_1 = Z_2 = Z_4$ for scalar electrodynamics
- The argument is redone in problem 68.3, so we leave the details to there.
 - I note in my solution that trying to rigorously reproduce these results leads to serious problems.
 - Nonetheless, we can trust that the conclusion is right, and the conclusion is all we shall need going further.