

CHAPTER OVERVIEW

5: Basic Concepts of Theoretical Particle Physics

We now come to the first hard part of the class. We'll try to learn what insights we can gain from the equation governing relativistic quantum mechanics.

[5.1: The Difference Between Relativistic and Non-Relativistic Quantum Mechanics](#)

[5.2: Antiparticles](#)

[5.3: QED - Photon Couples to \$e^+e^-\$](#)

[5.4: Fluctuations of the Vacuum](#)

[5.5: Infinities and Renormalization](#)

[5.6: The Predictive Power of QED](#)

[5.7: Problems](#)

Thumbnail: One of the Feynman diagrams for an electron-electron scattering.

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