

## 8.324 Problem Set 4

**References** Peskin and Schroeder, chapter 10, Weinberg, chapters 11,12.

**Problem 1 One loop Structure of QED** Peskin and Schroeder, problem 10.1.

**Problem 2 Renormalization of Yukawa Theory** Peskin and Schroeder, problem 10.2.

**Problem 3 Field Strength Renormalization in  $\phi^4$ .** Peskin and Schroeder, problem 10.3.

**Problem 4 Renormalizable interactions** Weinberg, problem 12.1.

**Problem 5 Overlapping divergence in QED** Weinberg, problem 12.2.