

# Rutgers Physics 619 (Fields II) HW2

Instructor: David Shih

Due date: Monday, February 26, 2018

- 1) Srednicki 39.2
- 2) Srednicki 39.3
- 3) Srednicki 39.4
- 4) Srednicki 45.2
- 5) Compute the basic tree-level amplitudes ( $e^\pm\varphi \rightarrow e^\pm\varphi$ ,  $e^+e^- \rightarrow \varphi\varphi$ ,  $\varphi\varphi \rightarrow e^+e^-$ ,  $e^\pm e^\pm \rightarrow e^\pm e^\pm$ ) for pseudoscalar Yukawa theory,  $\mathcal{L}_{int} = ig\varphi\bar{\Psi}\gamma_5\Psi$ .