

Physics 115C Tenth Problem Set

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Office Hours W 10-noon

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due Thursday, December 5, 2002

1. (a) Evaluate the integral:

$$\int_0^t dt' \int_0^{t'} dt'' \int_0^{t''} dt''' \dots \int_0^{t^{(n-1)'}} dt^{n'}$$

- (b) If the perturbation Hamiltonian, $H_I^1 = (\text{constant operator})$, what functional form does Eq. 18.3.25 on page 488 of the text simplify to?

2. Exercise 14.4.3, page 396 of the text.
3. Exercise 14.4.4, page 396 of the text.
4. Exercise 18.3.2, page 491 of the text.