

Bryn Mawr Physics 302- Advanced Quantum Mechanics - 2010
Walter Smith

Assignment #1

Due: Friday, 29 January at 10:00 am.

Reading: Chapter 1 of Townsend

Group problems:

1.3 Ans.to part c: $\Delta S_z = \frac{\hbar}{2}(\sin \theta)$ (Your answer will include a factor of $e^{i\delta}$. It is conventional to choose $\delta = 0$.)

1.4 Ans. for the probability of finding $S_x = -\frac{\hbar}{2}$ is $\frac{1}{2}(1 - \sin \theta \cos \varphi)$

1.5 Ans. for probability of finding $S_y = +\frac{\hbar}{2}$ is $\frac{1}{2}(1 + \sin \theta \cos \varphi)$

1.6

1.7

Individual-problem: 1.8