Homework for Advanced Quantum Mechanics. No. 4

Please send the pdf file to my email: zhaoruitong1986@163.com.

Deadline 2016-11-02 before class.

1. Explain the measurement of quantum states.
2. Solve the eigenvalues and eigenfunctions of σ_z, where $\sigma_z=\begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$.
3. Orbital angular momentum operators $\hat{L}=\hat{r}\times\hat{p}$. Prove: $\left[\hat{L}_x,\hat{x}\right]=\left[\hat{L}_y,\hat{y}\right]=\left[\hat{L}_z,\hat{z}\right]=0$.