Homework

Lecture 29

Physics 342 Quantum Mechanics I

Wednesday, April 16th, 2008

Homework

Reading: Griffiths, pp. 210-217.

Problem 29.1

If we have two identical bosons in an infinite square well (extending from $0 \rightarrow a$ as usual), in the spin state: $|00\rangle$, with energy:

$$E = \frac{\pi^2 \hbar^2}{2 m a^2} \left(p^2 + q^2 \right)$$
(29.1)

for integers p and q, what is the stationary state of the system? (use the Clebsch-Gordon table on p. 188, and include the spin in your stationary wave function, together with the spatial dependence).

Problem 29.2

Griffiths 5.11. Correction to Helium energy.