

## Physics 712 Homework Problems

1. The ammonia maser is known to give off microwaves at 24 GHz. In the Hamiltonian matrix given in class, what is the magnitude of the off-diagonal element (in eV)?

$$H = \begin{pmatrix} E_{LL} & E_{LR} \\ E_{RL} & E_{RR} \end{pmatrix}$$

- 2, 3. Sakurai problems 4.2, 4.4.