

**ASTR 5110 Atomic and Molecular Processes Fall 2022. Problem Set 6. Due
Wed 12 Oct.**

1. Electronic configuration

Give the terms, levels, and ordering in energy for the ground electronic configuration $1s^2 2s^2 2p^4$. What is the degeneracy (number of states) of each term, and of each level? Give your reasoning. What is the neutral atom with this electronic configuration? Draw a Grotrian diagram. Find on the web the wavelengths of the infrared, optical, and ultraviolet lines connecting the levels, and mark them on your Grotrian diagram.