

**Due date:** Tuesday, Nov. 5

**Deadline:** Thursday, Nov. 7

1. (10) 6.5 3-state model and the role of zero-point energy.
2. (5) 6.12 Estimate of temperature of interstellar clouds.
3. (15) 6.22 b-e Paramagnet with  $n$  states. We did part a in class. Part f is a straightforward grind.
4. (10) 6.41 2D Maxwell speed distribution. We did most of this in class. Just find the mean, the mode, and the rms speeds.
5. (10) 6.42 Free energy of  $N$  SHO's. In part b, comment on the meaning of the two terms.