

2021 - PHY 981 - Homework set 5 (due Feb 21)

1. Discussion session on Fridays 2-3 link to zoom
link to lecture notes
link to nushellx.zip
link to toi.zip
2. Read Chapters 13-15.
3. Use the liquid drop model to calculate the energy of the T=2 state in ^{20}Ne that is the IAS of the ground state of ^{20}O . Compare to experiment.
4. Derive Eq. 13.8 from 13.7
5. Derive Eq. 13.19 for two-particles ($n = 2$) wavefunctions.
6. Derive Eq. 13.21 for two-particles ($n = 2$) wavefunctions.
7. Derive Eq. 13.29.