

Homework 3

1. (120 points) Starting from the general form of the Schoedinger equation for the radial wave function obtain the solution for the case of Hydrogenlike atom.

2. (40 points) Calculate R_{10}

3. (60 points) Calculate R_{20}

4. (40 points) Calculate R_{21}

5. (60 poins) Calculate RMS radii of the R_{10} and R_{20} states.