UNIVERSITY OF BIRMINGHAM

Recap of Lecture 9

- Wave equation and QM general solutions
- Meaning of probability amplitude, density
- Integrating to normalise, then find probability of particle being in a given region (particle in a box)

In this lecture

- The Schrödinger equation
- Expectation values of observables

Schrödinger

Erwin Schrödinger
(1887–1961)

- Erwin Schrödinger proposed a QM wave equation for non-relativistic particles in 1926

- Note that the QM wave equation can not be derived from basic laws of physics – it is a postulate, which must be tested by experiment (and has been!)

- Schrödinger and Paul Dirac shared the 1933 Nobel Prize for this work

- Prue Leith (1801 -) was not involved in this work, and confusingly has also not yet received a Nobel Prize