

1) The state of the system is completely described by its wave-function (or state-function) $\psi(x,y,z,t)$

“The Born Interpretation:” $P = \psi^* \psi dx dy dz$

2) For every classical observable there is a corresponding (linear, Hermitian) operator in QM (obtained by replacing x by \hat{x} and p_x by $-i\hbar \frac{\partial}{\partial x}$)

3a,b) The only values of A that will ever be observed correspond to eigenvalues of the operator A . If ψ is an eigenfunction of A , then only a single value, the eigenvalue of A ψ will be observed. If ψ is not an eigenfn of A , the each n^{th} eigenvalue of A will be observed with a probability equal to $|c_n|^2$ where c_n is the coefficient of the expansion of ψ in terms of the ψ_n eigenfunctions.

4) The mean value of a series of measurements of an observable A corresponds to the expectation value of the operator A : $\langle A \rangle = \int \psi^* \hat{A} \psi dr$

5) The time-evolution of the wave-function is governed by: $\hat{H} \psi = i\hbar \frac{\partial \psi}{\partial t}$