

- ① Some crazy two particle system is described by the Hamiltonian

$$\hat{H} = \hat{H}_A + \hat{H}_B.$$

Proceede as far as you can in writing out the wave functions and energy levels.

- ② What mathematically is done during the Born-Oppenheimer Approximation?

- ③ What physically about the diatomic molecule motivates the Born-Oppenheimer approximation?

