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Johannah M Miller* (johannah.miller@my.minotstateu.edu) and **Narayan Thapa** (narayan.thapa@minotstateu.edu). *Modeling the Energy Level of Hydrogen Using the Schrödinger Equation.*

The Schrödinger equation models the state of a hydrogen atom (that is, the behavior of its orbiting electron) with respect to position and momentum. We use the Heisenberg uncertainty principle to focus on the position of the hydrogen electron. The Time-Independent Schrödinger Equation (TISE) is then solved by the method of separation of variables. Three integral quantum numbers are derived using various calculus techniques, in addition to probability density function and normalization. The energy levels of the hydrogen atom are modeled as a function of n , the principle quantum number. The convergent result is shown analytically and numerically. (Received September 05, 2013)