

GRADUATE STUDENT SEMINAR

Friday, 18th NOV., 4:00pm, Robeson 116

The Coulomb Potential With a Minimal-Length Hypothesis

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ABSTRACT

The canonical commutation relations in ordinary quantum mechanics can be modified to account for the possible existence of an absolute minimal length, suggested by quantum gravity and string theory.

This modified, "minimal-length" quantum mechanics is an excellent testing ground for such hypotheses as it is conceptually no more sophisticated than regular quantum mechanics. In this talk I will calculate the minimal-length corrections to the Hydrogen atom spectrum, and compare it to experimental data in order to obtain an upper bound on the allowable size of such a minimal length.