

CU Physics Department Colloquium

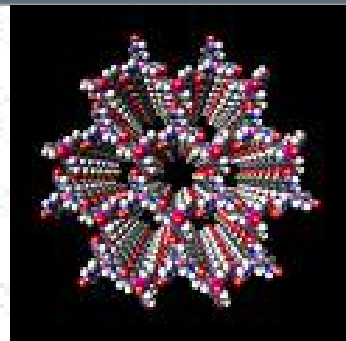
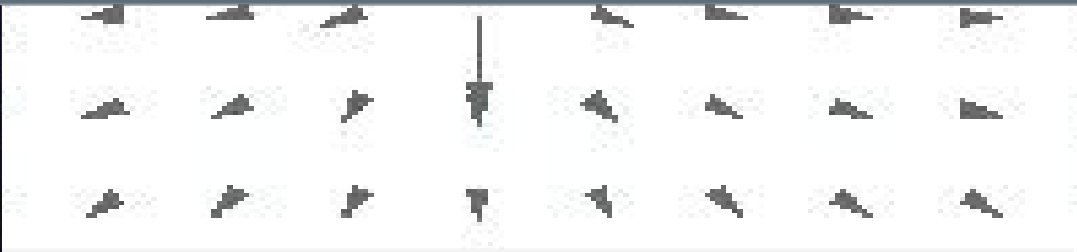
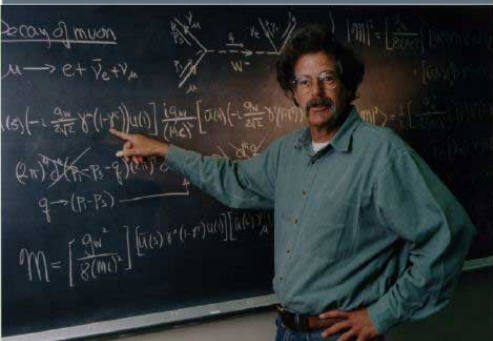
Monday, January 28, 2008 4:10 PM 428 Pupin Hall

Professor David Griffiths, Reed University

Critical Dipoles and Singular Potentials

The Schrodinger equation for a point charge in the field of a stationary electric dipole admits bound states when the dipole moment exceeds a certain critical value. It is not hard to see why this might be the case, but it is surprisingly difficult to calculate the critical dipole moment.

One method exploits a connection between this problem and the infamous $1/x$ -squared potential on the half-line, an intriguing system that confounds all our quantum intuitions. Resolving its paradoxes requires sophisticated theoretical machinery: renormalization, anomalies, and self-adjoint extensions.



Hosted by Janet Conrad