Colloquium

Department of Physics

December 8, 3pm in BA 140

Diatomic Molecules as Quantum Tools

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Abstract: Our group is applying the techniques of modern atomic physics to the system of diatomic molecules. Molecules are more complex than atoms because of their vibrational and rotational degrees of freedom, and makes them difficult to control. However, we have identified ways to make use of these "new" properties to provide powerful leverage on a broad range of problems. These span fields all the way from particle physics, to quantum computation, to chemical physics. This talk will give an overview of the field, along with some specific examples of our recent work. These include the first-ever laser cooling and trapping of a diatomic molecule, and results from a search for the CP-violating electric dipole moment of the electron.