

Checking for fundamental constant oscillations and parity violation in hot vapors

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Spectroscopy of atoms and molecules can provide a range of tests of fundamental physics. The high measurement precision attainable in such experiments can be employed to investigate physics beyond the standard model of particle physics. I will present different activities within this framework. In one set of activities, we employ spectroscopy of atoms or molecules in hot vapors to search for fundamental constant oscillations which are expected within ultralight dark matter scenarios. Another activity involves spectroscopy of HgH to measure a tiny optical-rotation effect arising from parity violation in the molecule.