

Harvard University Department of Physics Colloquium

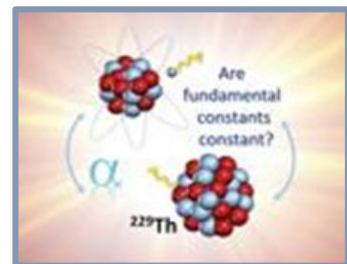
Monday, March 2, 2020
4:30PM ~ Jefferson Lab 250
Colloquium Tea
3:45PM ~ Jefferson Lab 450

Atomic Clocks for Fundamental Physics - Time for Discovery

The extraordinary advances in quantum control of matter and light have been transformative for precision measurements enabling probes of the most basic laws of Nature to gain fundamental understanding of the physical Universe. Exceptional versatility, inventiveness, and rapid development of precision experiments supported by continuous technological advances and improved theory give a high chance for paradigm-shifting discovery. The development of atomic clocks with systematic uncertainties in the 10-18 range enables searches for the variation of fundamental constants, dark matter, and violations of Lorentz invariance. I will give an overview of such clock applications including prospects for significantly improved sensitivity with highly charged ions and a nuclear clock.



Marianna Safronova
University of Delaware



The Physics Monday Colloquium is supported by the Morris Loeb Lectureship Fund

For more information please go to : <https://www.physics.harvard.edu>