

Where AMO meets Nuclear meets Particle: quantum state prep and read-out in molecules and the search for CP-violating physics (40+10)

Tuesday, January 14, 2025 10:30 AM (50 minutes)

The many internal quantum states (vibrational, rotational, hyperfine, parity) of molecules add complexity to experiments but in exchange offer opportunity. For instance, the current best limit on the electron's electric dipole moment was set in a trapped-molecule experiment, and prospects for finding new CP-violating physics in radioactive molecules are excellent. I'll review some of this and also talk about an enabling technology: visions for reading out the internal state population in multiple quantum states in a single shot.

Primary author: CORNELL, Eric (University of Colorado/NIST)

Presenter: CORNELL, Eric (University of Colorado/NIST)

Session Classification: Session 3