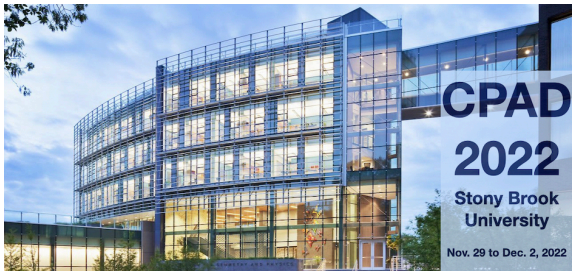

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Highly-charged Ion Atomic Clock and Ultra-light Dark Matter

Wednesday, 30 November 2022 09:10 (20 minutes)

The QSNET consortium is building a network of next-generation atomic and molecular clocks that will achieve unprecedented sensitivity to variations of the fine structure constant, α, and the electron-to- proton mass ratio, μ. Variations in α can arise in a wide range of theories that extend the standard model, and constrain a wide range of models of ultra-light dark matter. An outline of the experimental and theoretical goals will be presented, and progress will be reported in constructing a highly charged Californium ion clock.

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