



The University of Texas at Austin
Department of Physics
College of Natural Sciences

The Emmett L. Hudspeth Centennial Lectureship in Physics

Wednesday, November 16, 2022
John Archibald Wheeler Lecture Hall
PMA 4.102, 4:00pm

***Quantum coherence, entanglement, and clock:
from emergent phenomena to fundamental
physics***

Prof. Jun Ye

***JILA, National Institute of Standards and Technology
and
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Abstract

Precise quantum state engineering, many-body physics, and innovative laser technology are revolutionizing the performance of atomic clocks and metrology, providing opportunities to explore emerging phenomena and probe fundamental physics. Recent advances include measurement of gravitation time dilation across a few hundred micrometers, and employment of quantum entanglement generated with optical cavity quantum-electrodynamics, a field pioneered by Jeff Kimble.