

Plenary Talk

PV I Mon 9:00 e415

From Quantum Computers to New Physics Searches using trapped atomic ions — ●ROEE OZERI — Weizmann Institute of Science, Rehovot , Israel

Trapped-ions are highly controlled quantum systems. Trapped-ion systems are one of the leading platforms for the realization of a quantum

computer and also provide extreme spectroscopic precision and great optical clock-work. In this talk I will describe how methods which are borrowed from the world of quantum computing can be used to increase the coherence time of, sometimes highly correlated, atomic superpositions which in turn leads to greater measurement precision. I will further show how this great spectroscopic precision can be used for new-physics searches