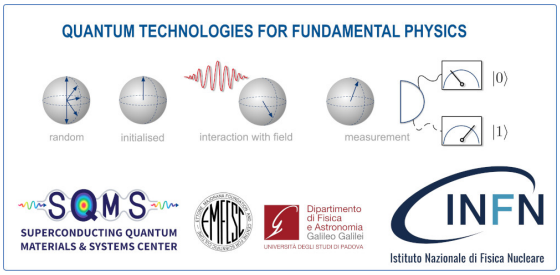

ID contributo: **36** Tipo: **non specificato**

Dark matter detection with trapped ions

domenica 3 settembre 2023 12:10 (20 minuti)

Axion Dark Matter, Dark Photon Dark matter and Millicharged particle dark matter are some of the simplest and popular models of dark matter and are looked for in various experiments. Yet, there continue to exist inaccessible regions in interaction and mass parameter space for these models. In this talk I propose a new way to detect the tiny electric fields produced by these dark matter candidates: the remarkably stable trapped ions, tools developed in the context of quantum metrology and quantum computing. I present preliminary data from pilot experiments as well as steps to improve sensitivity in the future.

Relatore: RAMANI, Harikrishnan (Stanford University)

Classifica Sessioni: Superconducting cavities, materials, and quantum technology for detection of weakly-coupled particles