Tensor Networks in Simulation of Quantum Matter: **T-NiSQ**

**Objective:** Study quantum matter through the development of
1. **Theoretical** tools: algorithms, methods, modeling
2. **Experimental** tools: devices, setups, platforms
   ...based or inspired to Tensor Networks

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**Highlights:**

**EXPERIMENT**

Ion-Trap Tensor Network variational eigensolver, to probe phases of quantum matter
[Phys. Rev. X 12, 041035 (2022)]

**THEORY**

Spin diffusion in perturbed isotropic Heisenberg spin chains:
Tensor Network dynamics of many-body quantum open sys.

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**WEBSITE**

https://t-nisq.pd.infn.it/