Contribution ID: **14** Type: **Poster**

Simulating the vibrational dynamics of molecules using a quantum dot induced non-linearity

Friday, 31 March 2023 15:40 (1h 50m)

We aim to develop quantum algorithms that can effectively simulate molecular vibrational dynamics. While simulating quantum dynamics using classical algorithms is trivial for systems approximated as harmonic oscillators, challenges arise when dealing with molecules containing anharmonicity, such as H2O. To overcome this challenge, we propose mapping molecular vibrations to photons and exploiting a non-linearity induced by quantum dots.

Field of study

Quantum Physics

Supervisor

Anders Søndberg Sørensen

Primary author: WHITE, Amelia (Niels Bohr Institute)

Session Classification: Poster session: Enjoy the posters‼!