



Alba Crescente

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Education and training

2019

Master Degree in Physics

Proprietà di Trasporto Elettrico e Termoelettrico in Dicalcogenuri dei Metalli di Transizione - 110/110 e lode

Università di Genova - Genova - IT

Academic experience

2019 - ONGOING

PhD Student

Università di Genova - Genova - IT

Language skills

Italian

Mother tongue

English

Independent
FCE

French

Basic

Teaching activity

Tutor for the course Istituzioni di Matematiche (8762), Scienze Biologiche (L-13), Università di Genova, Anno Accademico 2020-2021.

Research interests

My main area of research is the theoretical condensed matter physics. In particular, I'm working on the new branch of quantum thermodynamics, focusing my study on quantum batteries (QBs), namely systems that, due to quantum correlations, allows to store energy with better performances compared to their classical counterpart. In this research field I have investigated different quantum models that can lead to realistic implementations of QBs, namely: independent two-level systems (TLSs) coupled to a classical external drive, leading to a remarkable advantage in the charging times of the QB, independent TLSs coupled to a thermal bath to study the effects of dissipation in the possibility to store energy and N TLSs coupled to a single cavity to understand how the effects of interaction can improve the charging power of the QBs.