Lev-Arcady **Sellem**

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Current position

Postdoctoral researcher *2024 - today*

Institut Quantique, Université de Sherbrooke *Sherbrooke, Canada*

Advisors : Alexandre Blais, Baptiste Royer.

Research themes: analysis, estimation and control of open quantum systems; reservoir engineering methods for robust quantum information processing.

Publications

Annales Henri Poincaré (to appear) *2023*

R. Robin et al., Convergence of bipartite open quantum systems stabilized by reservoir engineering

Nature *2023*

U. Réglade et al., Quantum control of a cat-qubit with bit-flip times exceeding ten seconds

IFAC proceedings *2023*

L.-A. Sellem et al., Stability and decoherence rates of a GKP qubit protected by dissipation

Physical Review X (to appear) *2023*

L-A. Sellem et al., A GKP qubit protected by dissipation in a high-impedance superconducting circuit driven by a microwave frequency comb

PRX Quantum *2022*

C. Berdou et al., One hundred second bit-flip time in a two-photon dissipative oscillator

CDC proceedings *2022*

L.-A. Sellem et al., Exponential convergence of a dissipative quantum system towards finite-energy grid states of an oscillator

Education

PhD in Mathematics *2020 - 2024*

Mines ParisTech, Inria *Paris, France*

Mathematical methods for simulation, estimation and control of open quantum systems.

Advisors : Claude Le Bris, Pierre Rouchon.

Master's degree in mathematics applied to modelisation - 2nd year *2019 - 2020*

Sorbonne Université *Paris, France*

FeSup master's degree in mathematics - 2nd year *2018 - 2019*

École Normale Supérieure Paris-Saclay *Cachan, France*

Preparation to sit the national exam to become a teacher in mathematics - passed, rank 37.

Hadamard master's degree in mathematics - 1st year *2017 - 2018*

École Normale Supérieure Paris-Saclay *Cachan, France*

Third year of bachelor in Mathematics and Computer science *2016 - 2017*

École Normale Supérieure Paris-Saclay *Cachan, France*

Languages

French Native.

English Fluent - Cambridge English Advanced certification at grade A (C2 level).

Russian Intermediate - 9 years of study.