Clément Pellet-Mary

Education

2015–2017 **License/Bachelor**, *ENS Cachan*, France, PHYTEM (general physics).

2017–2018 **Agregation (teaching diploma)**, *ENS Cachan*.
11th national rank

2018-2019 **Master**, *ENS Paris*, France, ICFP (quantum physics).

2019-2022 **PhD**, *LPENS*, ENS Paris, Advisor Gabriel Hétet.
Dipolar interaction with dense ensemble of NV centers

Lab internship

2016 **License 3 internship**, *Frédéric Grosshans*, LAC, Orsay.
5 week internship on relativistic cryptography

2017 **Master 1 internship**, *Sara Bonella*, CECAM, Lausanne.
16 week internship in quantum chemistry on the use of semi-classical approach to solve complex quantum dynamics

2019 **Master 2 internship**, *Gabriel Hétet*, LPENS, Paris.
12 week internship on quantum optics experiments with ensemble of crystalline defects

Teaching

2019-2021 **Calculus 201 (tutorials)**, *License 2*, Sorbonne Université.

2019-2020 **Electromagnetism (practicals)**, *License 2*, Sorbonne Université.

2020-2021 **Lagrangian mechanics (tutorials)**, *License 2*, Sorbonne Université.

Publications

First author

2021 **Physical Review B 104.10 (2021)** .
Magnetic torque enhanced by tunable dipolar interactions

2021 **Physical Review B 103.10 (2021)** .
Optical detection of paramagnetic defects in diamond grown by chemical vapor deposition

2022 **Arxiv : 2207.13899 (2022)** .
Spin-Relaxation of Dipolar-Coupled Nitrogen-Vacancy Centers : The role of Double-flip Processes

Other

2019 **ACS Photonics 2019, 6, 10**.
Sub-GHz Linewidth Ensembles of SiV Centers in a Diamond Nanopyramid Revealed by Charge State Conversion

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2020 **Carbon 170 (2020)**.
High NV density in a pink CVD diamond grown with N2O addition

2021 **Micromachines 12.6 (2021)**.
Spin-mechanics with nitrogen-vacancy centers and trapped particles

2022 **Physical Review Letters 128.11 (2022)**.
Angle locking of a levitating diamond using spin diamagnetism

2022 **Diamond and Related Materials 123 (2022)**.
Improving NV centre density during diamond growth by CVD process using N2O gas

Languages and computer languages

French Native

English "Proficient" (C2 Cambridge advanced exam)

Pyhton Working basis

C/C++ Understanding