Quantum Estimation and Control for Advanced Noisy Metrology

Fact Sheet

Project Information

QECANM
Grant agreement ID: 101068347

Funded under
Marie Skłodowska-Curie Actions (MSCA)

DOI
10.3030/101068347

Total cost
€ 0,00

EU contribution
€ 172 750,08

Coordinated by
SCUOLA NORMALE SUPERIORE
Italy

Project description

Probing true precision limits in quantum metrology

Thanks to groundbreaking research, quantum technologies are scaling up and breaking out of theory into reality. For example, quantum metrology leverages quantum physics to perform measurements with a precision not achievable by purely classical approaches. Despite its success, there are still many open theoretical questions left on the path to understanding the ultimate capabilities of quantum metrology, especially in realistic operating conditions. Funded by the Marie Skłodowska-Curie Actions programme, the QECANM project will rest on three pillars: understanding the ultimate quantum estimation limits of multiple parameters simultaneously, assessing how environmental noise affects the quantum probe and understanding the metrological scheme limits based on time-continuous
measurements. Project findings will lay the foundations for further advances in next-generation quantum sensors.

**Fields of science**

- natural sciences > physical sciences > optics > cavity optomechanics
- engineering and technology > electrical engineering, electronic engineering, information engineering > electronic engineering > computer hardware > quantum computers
- engineering and technology > electrical engineering, electronic engineering, information engineering > electronic engineering > sensors

**Keywords**

- quantum metrology
- quantum sensing
- multiparameter quantum estimation
- time-continuous measurements
- quantum trajectories

**Programme(s)**

- HORIZON.1.2 - Marie Skłodowska-Curie Actions (MSCA)

**Topic(s)**

- HORIZON-MSCA-2021-PF-01-01 - MSCA Postdoctoral Fellowships 2021

**Call for proposal**

- HORIZON-MSCA-2021-PF-01

See other projects for this call

**Funding Scheme**

- HORIZON-TMA-MSCA-PF-EF - HORIZON TMA MSCA Postdoctoral Fellowships - European Fellowships
Coordinator

SCUOLA NORMALE SUPERIORE

Net EU contribution

€ 172 750,08

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Region

Centro (IT) > Toscana > Pisa

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation  
Website  
Participation in EU R&I programmes  
HORIZON collaboration network  

Other funding

€ 0,00

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