

7th Basque Quantum Science and Technology Workshop Oct 4, 2024

09:20 Welcome

09:30 I1 Mark Erbium atoms in tweezer arrays: A new platform for Quantum Simulation

10:00 C1 Gonzalez-Raya Modelling Frequency Conversion of Quantum Light via Molecular Modulation in Hollow-Core Fibres

10:20 I2 Huang In-situ subwavelength quantum gas microscopy: control and measurement of dense ensemble

10:50 Coffee break and Posters

11:20 I3 Toth Number-phase uncertainty relations and bipartite entanglement detection in spin ensembles

11:50 C2 Bercioux Spectral Properties of Non-Hermitian Systems Featuring Impurities and Flat Bands

12:10 C3 Barnett Non-Hermitian Quantum Many-Body Physics

12:30 C4 Patra Projected Entangled Pair States with flexible geometry

12:50 Lunch and Posters

15:20 I5 Pistolesi A nanomechanical Qubit for sensing and computing

15:50 C8 Ortuzar A tunable Cooper pair diode

16:10 I6 Frederiksen Electron quantum optics with graphene nanoribbons

16:40 Coffee break and Posters

17:10 I4 Crespo Insights in Quantum Information Theory

17:40 C5 Aizpurua Hacking Cryptographic Protocols with Advanced Variational Quantum Attacks

18:00 C6 Andrade Real-time evolution of the Schwinger model on IBMQ devices: Gauge invariance as an error-correction tool

18:20 C7 Carreras Towards Running Quantum Chemistry in Quantum Hardware

18:40 Conclusion & End of Workshop