

Postdoctoral Researchers

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[JAVIER CERRILLO](#) Postdoctoral Researcher
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Biographical Info

2019 Postdoctoral researcher, Department of Theoretical Condensed Matter Physics, UAM, Madrid, Spain.

2014-2019: Long term Research Assistant, Institut für Theoretische Physik, Technische Universität Berlin, Germany.

2012-2014: Postdoctoral associate, Department of Chemistry, Massachusetts Institute of Technology, USA.

2009-2012: PhD Student, Quantum Optics and Laser Science Group, Imperial College London, UK.

Honors and Awards

AXA Research Fund Doctoral Student

Research Interests

Simulation of Open Quantum Systems.

Quantum Optics.

Quantum Transport.

Josephson Weak Links.

Trapped Ions.

Relevant/Recent Publications

Electron pumping in the strong coupling and non-Markovian regime: A reaction coordinate mapping approach, Sebastian Restrepo, Sina Böhling, Javier Cerrillo, and Gernot Schaller, Phys. Rev. B 100, 035109, (2019). [[URL](#)]

Experimental and theoretical investigation of a multimode cooling scheme using multiple electromagnetically-induced-transparency resonances, Nils Scharnhorst, Javier Cerrillo, Johannes Kramer, Ian D. Leroux, Jannes B. Wübbena, Alex Retzker, and

Piet O. Schmidt, Phys. Rev. A 98, 023424, (2018). [[URL](#)]

Initial system-environment correlations via the transfer-tensor method, Maximilian Buser, Javier Cerrillo, Gernot Schaller, and Jianshu Cao, Phys. Rev. A 96, 062122, (2017). [[URL](#)]

Nonequilibrium quantum transport coefficients and transient dynamics of full counting statistics in the strong-coupling and non-Markovian regimes, Javier Cerrillo, Maximilian Buser, and Tobias Brandes, Phys. Rev. B 94, 214308, (2016). [[URL](#)]

Driven Open Quantum Systems and Floquet Stroboscopic Dynamics, S. Restrepo, J. Cerrillo, V. M. Bastidas, D. G. Angelakis, and T. Brandes, Phys. Rev. Lett. 117, 250401, (2016). [[URL](#)]

Efficient simulation of non-Markovian system-environment interaction, Robert Rosenbach, Javier Cerrillo, Susana F Huelga, Jianshu Cao and Martin B Plenio, New J. Phys. 18 023035, (2016). [[URL](#)]

Non-Markovian Dynamical Maps: Numerical Processing of Open Quantum Trajectories, Javier Cerrillo and Jianshu Cao, Phys. Rev. Lett. 112, 110401, (2014). [[URL](#)]

Pulsed Laser Cooling for Cavity Optomechanical Resonators, S. Machnes, J. Cerrillo, M. Aspelmeyer, W. Wieczorek, M. B. Plenio, and A. Retzker, Phys. Rev. Lett. 108, 153601, (2012). [[URL](#)]

Fast and Robust Laser Cooling of Trapped Systems, J. Cerrillo, A. Retzker, and M. B. Plenio, Phys. Rev. Lett. 104, 043003, (2010). [[URL](#)]

Simulating two- and three-dimensional frustrated quantum systems with string-bond states, Alessandro Sfondrini, Javier Cerrillo, Norbert Schuch, and J. Ignacio Cirac, Phys. Rev. B 81, 214426, (2010). [[URL](#)]

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