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### Book (as editor)

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„Time in Quantum Mechanics - Vol. 2“  
Lecture Notes in Physics, Vol. 789 (Springer, 2009)  
J. G. Muga, A. Ruschhaupt and A. del Campo (editors)

### Five most cited research papers

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A. Ruschhaupt, F. Delgado and J. G. Muga, „Physical realization of PT-symmetric potential scattering in a planar slab waveguide“, Journal of Physics A: Math. Gen. 38, L171-L176 (2005) **(200 citations)**

X. Chen, A. Ruschhaupt, S. Schmidt, A. del Campo, D. Guéry-Odelin and J. G. Muga, „Fast Optimal Frictionless Atom Cooling in Harmonic Traps: Shortcut to Adiabaticity“, Physical Review Letters 104, 063002 (2010) **(159 citations)**

E. Torrontegui, S. Ibáñez, S. Martínez-Garaot, M. Modugno, A. del Campo, D. Guéry-Odelin, A. Ruschhaupt, X. Chen and J. G. Muga, „Shortcuts to Adiabaticity“, Advances In Atomic, Molecular, And Optical Physics, 62, 117 (2013) **(140 citations)**

X. Chen, I. Lizuain, A. Ruschhaupt, D. Guéry-Odelin and J. G. Muga, „Shortcut to Adiabatic Passage in Two- and Three-Level Atoms“, Physical Review Letters 105, 123003 (2010) **(113 citations)**

A. Ruschhaupt, X. Chen, D. Alonso and J.G. Muga, „Optimally robust shortcuts to population inversion in two-level quantum systems“, New Journal of Physics 14, 093040 (2012) **(79 citations)**

### Other research papers in international, peer-reviewed journals

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A. Kiely, J. G. Muga and A. Ruschhaupt, „Effect of Poisson noise on adiabatic quantum control“, Phys. Rev. A 95 (2017) 012115

A. Kiely, A. Benseny, Th. Busch and A. Ruschhaupt, „Shaken, not stirred: Creating exotic angular momentum states by shaking an optical lattice“, J. Phys. B 49 (2016) 215003

M. Palmero, S. Martinez-Garaot, U. G. Poschinger, A. Ruschhaupt and J. G. Muga, „Fast separation of two trapped ions“, New. J. Phys. 17 (2015) 093031

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M. Ndong, G. Djotyan, A. Ruschhaupt and S. Guerin, „Robust coherent superposition of states by single-shot shaped pulse“, Journal of Physics B: Atomic, Molecular and Optical Physics 48 (2015) 174007

X.-J. Lu, M. Palmero, A. Ruschhaupt, Xi Chen and J. G. Muga, „Optimal transport of two ions under slow spring-constant drifts“, Physica Scripta 90 (2015) 074038

A. Kiely, J. P. L. McGuinness, J. G. Muga and A. Ruschhaupt, „Fast and stable manipulation of a charged particle in a Penning trap“, Journal of Physics B: Atomic, Molecular and Optical Physics 48 (2015) 07550

X-L Lu, J.G. Muga, X. Chen, U. G. Poschinger, F. Schmidt-Kaler and A. Ruschhaupt, „Fast shuttling of a trapped ion in the presence of noise“, *Physical Review A* 89, 063414 (2014)

A. Kiely and A. Ruschhaupt, „Inhibiting unwanted transitions in population transfer in two- and three-level quantum systems“, *Journal of Physics B: At. Mol. Opt. Phys.* 47, 115501 (2014)

**D. Daems, A. Ruschhaupt, D. Sugny and S. Guérin, „Robust Quantum Control by a Single-Shot Shaped Pulse“, *Physical Review Letters* 111, 050404 (2013)**

A. Ruschhaupt and J.G. Muga, „Shortcuts to adiabaticity in two-level systems: control and optimization“, *Journal of Modern Optics* DOI:10.1080/09500340.2013.846431 (2013)

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J. Kiukas, A. Ruschhaupt and R.F. Werner, „Full counting statistics of stationary particle beams“, *Journal of Mathematical Physics* 54, 042109 (2013)

**S. Ibáñez, X. Chen, E. Torrontegui, J. G. Muga and A. Ruschhaupt, „Multiple Schrödinger Pictures and Dynamics in Shortcuts to Adiabaticity“, *Physical Review Letters* 109, 100403 (2012) (46 citations)**

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E. Ya. Sherman, J. G. Muga, V. K. Dugaev and A. Ruschhaupt, „Strong electron spin-Hall effect by a coherent optical potential“, *Semiconductor Science and Technology* 25, 0905004 (2010)

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A. Ruschhaupt, „Simulations of barrier traversal and reflection times based on event enhanced quantum theory“, Physics Letters A 250, 249-256 (1998)

## Book chapters

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A. Ruschhaupt and R. F. Werner, „Quantum Mechanics of Time“ in „The Message of Quantum Science“ (Ph. Blanchard, J. Fröhlich, Editoren, Springer, 2015)

A. Ruschhaupt, J. G. Muga and G. C. Hegerfeldt, „Detector models for the quantum time of arrival“, in „Time in Quantum Mechanics - Vol. 2“ (Lecture Notes in Physics, Vol. 789, 2009), J. G. Muga, A. Ruschhaupt and A. del Campo (Editoren)

A. Ruschhaupt, „An Application of EEQT: Tunneling Times“ in Ph. Blanchard et. al. (Editoren) „Decoherence: Theoretical, Experimental, and Conceptual Problems“ (LNP 538, Springer, 2000)