

Quantum Physics

Dwell-time distributions in quantum mechanics

J. Muñoz, I. L. Egusquiza, A. del Campo, D. Seidel, J. G. Muga

(Submitted on 10 Jan 2009)

Some fundamental and formal aspects of the quantum dwell time are reviewed, examples for free motion and scattering off a potential barrier are provided, as well as extensions of the concept. We also examine the connection between the dwell time of a quantum particle in a region of space and flux-flux correlations at the boundaries, as well as operational approaches and approximations to measure the flux-flux correlation function and thus the second moment of the dwell time, which is shown to be characteristically quantum, and larger than the corresponding classical moment even for freely moving particles.

Comments: To appear in "Time in Quantum Mechanics, Vol. 2", Springer 2009, ed. by J. G. Muga, A. Ruschhaupt and A. del Campo

Subjects: **Quantum Physics (quant-ph)**

Cite as: [arXiv:0901.1371v1](#) [quant-ph]

Submission history

From: J. G. Muga [[view email](#)]

[v1] Sat, 10 Jan 2009 11:34:46 GMT (121kb)

[Which authors of this paper are endorsers?](#)

Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

quant-ph

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [0901](#)

References & Citations

- [SLAC-SPIRES HEP](#)
([refers to](#) | [cited by](#))
- [CiteBase](#)

Bookmark([what is this?](#))

[CiteULike logo](#)

[Connotea logo](#)

[BibSonomy logo](#)

[Mendeley logo](#)

[Facebook logo](#)

[del.icio.us logo](#)

[Digg logo](#)

[Reddit logo](#)

Link back to: [arXiv](#), [form interface](#), [contact](#).