

Quantum Physics

Universal Time Tunneling

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How much time does a tunneling wave packet spent in traversing a barrier? Quantum mechanical calculations result in zero time inside a barrier . In the nineties analogous tunneling experiments with microwaves were carried out. The results agreed with quantum mechanical calculations. Electron tunneling time is hard to measure being extremely short and parasitic effects due to the electric charge of electrons may be dominant. However, quite recently the atomic ionization tunneling time has been measured. Experimental data of photonic, phononic, and electronic tunneling time is available now and will be presented. It appears that the tunneling time is a universal property independent of the field in question.

Comments: 3 pages, 1 figure, 1 table

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