Nonlinear Sciences > Chaotic Dynamics

Interaction and chaotic dynamics of the classical hydrogen atom in an electromagnetic field

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(Submitted on 5 Jan 2010)

Expressions for energy and angular momentum changes of the hydrogen atom due to interaction with the electromagnetic field during the period of the electron motion in the Coulomb field are derived. It is shown that only the energy change for the motion between two subsequent passings of the pericenter is related to the quasiclassical dipole matrix element for transitions between excited states.

Comments:	9 pages, 5 figures
Subjects:	**Chaotic Dynamics (nlin.CD)**; Atomic Physics (physics.atom-ph)
Journal reference:	Lith. J. Phys. 40, p. 242-247 (2000)
Cite as:	**arXiv:1001.0689v1 [nlin.CD]**

Submission history

From: Miglius Alaburda dr. [view email]
[v1] Tue, 5 Jan 2010 13:22:51 GMT (2574kb)

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