arXiv.org > physics > arXiv:1107.1288

Search or Article-id

(Help | Advanced search)

All papers



Physics > Atomic Physics

Parity nonconservation in ytterbium ion

B. K. Sahoo, B. P. Das

(Submitted on 7 Jul 2011)

We consider parity nonconservation (PNC) in singly ionized ytterbium (Yb+) arising from the neutral current weak interaction. We calculate the PNC electric dipole transition amplitude (E1_PNC) and the properties associated with it using the relativistic coupled-cluster theory. E1_PNC for the [4f^{14}] ^2 6s --> [4f^{14}] ^2 5d_{3/2} transition in Yb+ has been evaluated to within an accuracy of 5%. The improvement of this result is possible. It therefore appears that this ion is a promising candidate for testing the standard model of particle physics.

Comments: In Press, Phys. Rev. A as Rapid Communication, 1 figure and 3

tables

Atomic Physics (physics.atom-ph) Subjects: Cite as: arXiv:1107.1288 [physics.atom-ph]

(or arXiv:1107.1288v1 [physics.atom-ph] for this version)

Submission history

From: Bijaya Sahoo Dr. [view email] [v1] Thu, 7 Jul 2011 03:50:34 GMT (11kb)

Which authors of this paper are endorsers?

Link back to: arXiv, form interface, contact.

Download:

- PDF
- **PostScript**
- Other formats

Current browse context: physics.atom-ph

< prev | next > new | recent | 1107

Change to browse by:

physics

References & Citations

NASA ADS

Bookmark(what is this?)









