Cornell University Library

We gratefully acknowledge support from
the Simons Foundation
and member institutions

arXiv.org > nucl-th > arXiv:1106.1490

Search or Article-id

(Help | Advanced search)

All papers   Go!

Nuclear Theory

Rotational states in deformed nuclei: An analytic approach

W. Bentz, A. Arima, J. Enders, A. Richter, J. Wambach

(Submitted on 8 Jun 2011)

The consequences of the spontaneous breaking of rotational symmetry are investigated in a field theory model for deformed nuclei, based on simple separable interactions. The crucial role of the Ward-Takahashi identities to describe the rotational states is emphasized. We show explicitly how the rotor picture emerges from the isoscalar Goldstone modes, and how the two-rotor model emerges from the isovector scissors modes. As an application of the formalism, we discuss the M1 sum rules in deformed nuclei, and make connection to empirical information.

Comments:	19 pages, 9 figures
Subjects:	**Nuclear Theory (nucl-th)**
Cite as:	**arXiv:1106.1490 [nucl-th]**
	(or **arXiv:1106.1490v1 [nucl-th]** for this version)

Submission history

From: Wolfgang Bentz [view email]

[v1] Wed, 8 Jun 2011 03:34:46 GMT (41kb)

Which authors of this paper are endorsers?

Download:

- PDF
- PostScript
- Other formats

Current browse context:

nucl-th

< prev | next >

new | recent | 1106

References & Citations

- INSPIRE HEP
  (refers to | cited by)
- NASA ADS

Bookmark(what is this?)

Link back to: arXiv, form interface, contact.