



Physics > General Physics

# Spin, Isospin and Strong Interaction Dynamics

[E. Comay](#)

(Submitted on 23 Jul 2011)

The structure of spin and isospin is analyzed. Although both spin and isospin are related to the same SU(2) group, they represent different dynamical effects. The Wigner-Racah algebra is used for providing a description of bound states of several Dirac particles in general and of the proton state in particular. Isospin states of the four  $\Delta(1232)$  baryons are discussed. The work explains the small contribution of quarks spin to the overall proton spin (the proton spin crisis). It is also proved that the addition of QCD's color is not required for a construction of an antisymmetric state of the  $\Delta^{++}$  (1232) baryon.

Comments: 14 pages, 1 figure

Subjects: **General Physics (physics.gen-ph)**

Cite as: **arXiv:1107.4688 [physics.gen-ph]**

(or **arXiv:1107.4688v1 [physics.gen-ph]** for this version)

## Submission history

From: Eliahu Comay [[view email](#)]

[v1] Sat, 23 Jul 2011 13:10:38 GMT (10kb)

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

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

## Download:

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

Current browse context:

[physics.gen-ph](#)

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

[new](#) | [recent](#) | [1107](#)

Change to browse by:

[physics](#)

## References & Citations

- [NASA ADS](#)

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

