



Contribution ID: 43

Type: Oral

Role of Tensor Force in Magnetic Dipole Transitions in Cr-52

Theoretical calculations of spin and orbital components of the M1 dipole strength in ^{52}Cr are made using the Skyrme effective interaction in which the full tensor interaction has been included (Barton and Stevenson, 2018). The tensor terms have a substantial effect on the structure of the strength function, with different tensor strengths resulting in enhancement or suppression of strength at different energies while keeping the overall envelope of strength in the correct region as compared with experiment. We see in particular, strong effects arising from the $s.F$ term in the Skyrme mean field, which represents a spin-dependent interaction. This term appears to be vital in producing strength in the key region around 8 MeV, yet is usually not included in standard Skyrme force calculations.

(Barton and Stevenson, 2018) M. C. Barton and P. D. Stevenson, submitted to J. Phys. G arXiv:1709.07823

Primary author: STEVENSON, Paul (University of Surrey)

Co-author: Dr BARTON, Matthew (University of Surrey)

Presenter: STEVENSON, Paul (University of Surrey)

Track Classification: Track A