^{208}Pb(^{17}C,^{17}C) 2001Au04,2003Pr01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, G. C. Sheu	ENSDF	01-May-2017

2001Au04,2002Pr10: The authors probed the dipole excitation strength function by measuring the Coulomb dissociation of ^{17}C into ^{16}C+n on a 1.8 g/cm^2 lead target using a ≈500 MeV/nucleon beam from the GSI/FRS. The Coulomb excitation energy spectrum was reconstructed from a measurements of the ^{16}C+n momenta. Neutrons were detected using the LAND array, ^{16}C ions were momentum analyzed using a dipole magnet, and events with γ rays were determined using the 160 element NaI 4π Crystal Ball array. A sizeable l=0 component to ^{16}C*(1.77 MeV:J$^\pi$=2$^+$) was observed, which implies J$^\pi$=(3/2,5/2)$^+$.

In (2001Pr09,2001Pr18,2002Da30,2003Pr01), the authors report further analysis of the γ-ray data where the cross sections feeding the $^{16}C_{g.s.}$ (9 mb *+15−9*), ^{16}C*(1.77 MeV:J$^\pi$=2$^+$) (62 mb *7*) and ^{16}C*(≈3-4 MeV:J$^\pi$=4$^+$) (25 mb *7*) are discussed. The results suggest a (64 *9*)% $^{17}C_{g.s.}$ configuration of ^{16}C(2$^+$)⊗$\nu_{s,d}$, with J$^\pi$=3/2$^+$ preferred.

See also theoretical analysis in (2004Ta31).

^{17}C Levels

E(level)	J$^\pi$
0	(3/2,5/2)$^+$