^{50}V(d,^{2}He) 2005Ba14

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh	NDS 157, 1 (2019)	15-Apr-2019

$J^{\pi}(^{50}\text{V g.s.})=6^{+}$.

2005Ba14: E=171 MeV. Enriched (55%) target. Measured ^{2}He spectra using BBS magnetic spectrometer at KVI facility, angular distributions measured at 0°, 3° and 5°. FWHM=160 keV. Gamow-Teller strengths deduced for ^{50}V to ^{50}Ti transitions up to 17 MeV excitation in ^{50}Ti. The spectra were analyzed in seven energy bins from 5.9 to 14.8 MeV, the region from 2.8 to 3.9 MeV could not be analyzed due to large contribution from hydrogen line. DWBA analysis and large-scale shell-model calculations.

Main Gamow-Teller strength (ΔL=0) is found to be up to 12.2 MeV excitation.

Measured (summed) Gamow-Teller strength up to 12.2 MeV=1.9 *5*.

^{50}Ti Levels

E(level)	L†	Comments
6.4×10^{3} *5*	0	E(level): energy bin=5.9-6.9 MeV.
8.15×10^{3} *25*	0	E(level): energy bin=7.9-8.4 MeV.
8.65×10^{3} *25*	0	E(level): energy bin=8.4-8.9 MeV.
9.3×10^{3} *4*	0(+1)	E(level): energy bin=8.9-9.7 MeV.
10.05×10^{3} *35*	0(+1)	E(level): energy bin=9.7-10.4 MeV.
11.3×10^{3} *9*	0+1	E(level): energy bin=10.4-12.2 MeV.
14.1×10^{3} *7*	1(+0)	E(level): energy bin=13.4-14.8 MeV.

† From $\sigma(\theta)$ distributions and DWBA comparisons. Dominant components are given without parentheses.