Adopted Levels

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Wang Jimin and Huang Xiaolong	NDS 144, 1 (2017)	1-Mar-2016

Q(β^-)=13816 *13*; S(n)=4860 *15*; S(p)=1.648×10^4 *SY*; Q(α)=−1.516×10^4 *SY* 2017Wa10
Estimated uncertainties (2017Wa10): ΔS(p)=500, ΔQ(α)=400.
2014Pa45 and 2013Pa11 present measured hyperfine parameters, hyperfine structure anomalies, spins and magnetic moments, while 2014Kr04 presents measured rms radii, isotope shifts and spin determinations. For shell-model systematics see 1983RaZR.

^{51}K Levels

Cross Reference (XREF) Flags

A U(p,X)

E(level)	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	3/2$^+$	365 ms *5*	A	%β^-=100; %β^-n=65 *8* μ=+0.5129 *27* (2013Pa11,2014Pa45,2014StZZ) μ: deduced from hyperfine parameters measured relative to those for ^{39}K, Collinear Laser Spectroscopy (CLS, 2013Pa11). δ<r^2>(^{47}K,^{51}K)=+0.538 fm^2 *13*(stat) *61*(syst); $\delta\nu$(^{47}K,^{51}K)=+273.2 MHz *14*(stat) *11*(syst) (2014Kr04). J$^\pi$: Spin from fitting of hyperfine structure with assumed spins of 3/2, 5/2 and 7/2 and comparison of intensity ratios of lines in these spectra (2013Pa11). J=5/2 and higher values are excluded at 95% confidence level. Comparison of experimental magnetic moments for different spin values (3/2$^+$, 5/2$^+$, 7/2$^+$) with those calculated from shell model with three different interactions shows agreement only for 3/2$^+$. Appearance of four resonances in figure 3 in 2014Pa45, figure 1 in 2013Pa11, and figure 4 in 2014Kr04 rules out J=1/2 for which maximum of three resonances are expected. Configuration=$\pi 1d_{3/2}^{-1}$ (90-93%) (2014Pa45) from comparison with shell-model calculations. T$_{1/2}$: from multiscaling of neutron coincidences in 1983La23. Other: 380 ms *30* (β or γ multiscaling, 1981HuZT). %β^-n: Weighted average of 63 *8* (β-γ-n coin,2006Pe16) and 68 *10* (β-n coin,Scin, 1983La23). Others: 47 *5* (simultaneous β and neutron (scin in ^{3}He long counter) measurements,1982Ca04, 1981HaZC).