^{24}Mg(^{32}S,αnγ) 2000Be52,2004Du25

History

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

2000Be52: E=95 MeV. Measured Eγ and $\gamma\gamma$ using Gammasphere array consisting of 101 Compton-suppressed HPGe gamma-ray spectrometers.

2004Du25: E=95 MeV. 99.92% ^{24}Mg target. Measured Eγ, Iγ, $\gamma\gamma$, lifetimes with the GASP detector array, composed of 40 HPGe detectors and 74 BGO elements.

All information below is taken from 2000Be52.

^{51}Fe Levels

E(level)†	J$^\pi$‡	$T_{1/2}$	Comments
0	5/2$^-$		
253.0 *10*	7/2$^-$		
1146.7 *13*	9/2$^-$		
1517.3 *13*	11/2$^-$		
2953.8 *14*	13/2$^-$		
3275.8 *15*	15/2$^-$		
3590.3 *16*	17/2$^-$		
4098.3 *19*	19/2$^-$		
5608.7 *20*	21/2$^-$		
6492.0 *20*	23/2$^-$		
7269.1 *23*	27/2$^-$	48.3 ps *24*	$T_{1/2}$: from 2004Du25. The uncertainty was deduced by adding the systematic (2.1 ps) and statistical (1.1 ps) uncertainties in quadrature (by evaluators). The half-life was obtained by applying the recoil distance Doppler shift (RDDS) method to the 777 transitions in spectra taken in coincidence with low-lying γ-rays.

† From least-squares fit to Eγ's, assuming Δ(Eγ)=1 keV for each γ ray.

‡ From mirror-symmetry arguments(comparison of the T_z=−1/2 with T_z=1/2 levels).

γ(^{51}Fe)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
253	253.0	7/2$^-$	0	5/2$^-$	893	1146.7	9/2$^-$	253.0	7/2$^-$
314	3590.3	17/2$^-$	3275.8	15/2$^-$	1265	1517.3	11/2$^-$	253.0	7/2$^-$
322	3275.8	15/2$^-$	2953.8	13/2$^-$	1437	2953.8	13/2$^-$	1517.3	11/2$^-$
370	1517.3	11/2$^-$	1146.7	9/2$^-$	1510	5608.7	21/2$^-$	4098.3	19/2$^-$
508	4098.3	19/2$^-$	3590.3	17/2$^-$	1758	3275.8	15/2$^-$	1517.3	11/2$^-$
637	3590.3	17/2$^-$	2953.8	13/2$^-$	1807	2953.8	13/2$^-$	1146.7	9/2$^-$
777	7269.1	27/2$^-$	6492.0	23/2$^-$	2394	6492.0	23/2$^-$	4098.3	19/2$^-$
883	6492.0	23/2$^-$	5608.7	21/2$^-$					

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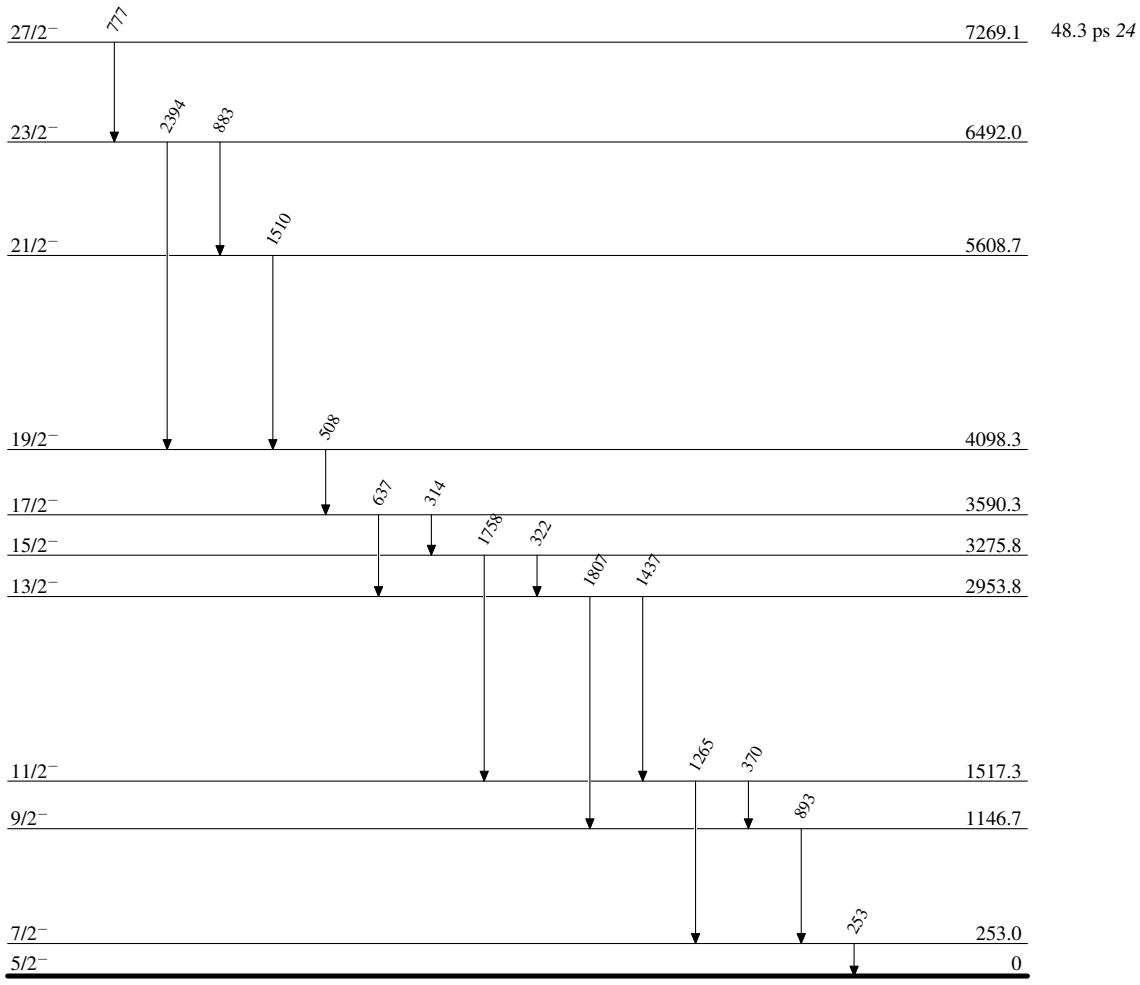
Level Scheme



$^{51}_{26}Fe_{25}$