Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	T. W. Burrows	NDS 109,171 (2008)	30-Oct-2007

Q(β^-)=−1.44×10^4 *syst*; S(n)=1.39×10^4 *syst*; S(p)=2.69×10^3 *19*; Q(α)=−6.24×10^3 *5* 2012Wa38
Note: Current evaluation has used the following Q record −13850 SY1.358E+4SY2.14E+3 *52*−5690 syst 2003Au03.
Q(β^-): Estimated uncertainty=590 keV.
S(n),Q(α): Estimated uncertainty=510 keV.
Q(εp)=11.29 MeV *50*.
Δ'=−18.94 MeV *+50−60* (2004St05. Bare ions; isochronous mass measurement) compared to −18.97 MeV *50* (2003Au03. Syst).
1974Ja10: ^{32}S(^{16}O,3n) E=50-82 MeV. Surface-barrier counter telescope. A crude excitation curve indicated a maximum $\sigma\approx$0.3 microbarn in the production of the activity near 75 MeV and a threshold below 65 MeV which is consistent with the 53-MeV threshold for (^{16}O,3n) but not with the 74-MeV threshold for (^{16}O,4n). The observed spectrum and $T_{1/2}$ were not compatible with those of any other delayed-particle emitter compiled by 1973Ha77.
Additional information 1.
2007Do17: Ni(^{58}Ni,X) E=74.5 MeV/nucleon. α-LISE3 fragment separator. Fragment identification by energy loss, residual energy and tof measurements using two micro-channel plate (MCP) detectors and Si detectors. Double-sided silicon-strip detectors (DSSSD) and a thick Si(Li) detector were used to detect implanted events, charged particles and β particles. γ's detected by four Ge detectors. Coincidences measured between charged particles and γ's.
Others: 1987Ki14 (^{12}C(^{40}Ca,X) E=292-520 MeV; activation) and 1985ReZW (calc(^{14}N,x) E>140 MeV and calc(^{3}He,x) E=110, 135 MeV; E(p), I(p), proton yields).

^{45}Cr Levels

Cross Reference (XREF) Flags

A ^{46}Fe β^+p decay: partial

E(level)	J$^\pi$[†]	$T_{1/2}$	XREF	Comments
0.0	(7/2$^-$)	60.9 ms *4*	A	%β^+=100; %β^+p=34.4 *8* T=(3/2) J$^\pi$,T: from syst of J^π=7/2$^-$, T=3/2 f7/2 quadruplets. Other: J^π=7/2$^-$ (2003Au02. Syst). $T_{1/2}$: from 2007Do17. Other: 50 ms *6* (1974Ja10. From proton counting (300-ms irradiation period; 30-ms open shutter period; seven 60-ms time intervals; eighth 60-ms "background" after closure of the shutter). %β^+p: From 2007Do17. Other: >≈27 (1974Ja10. If log *ft*=3.3 to 4797 state in ^{45}V).
0+x	(3/2$^+$)		A	
494+x	(5/2$^+$)		A	

[†] From the mirror nucleus ^{45}Sc, except as noted.

$\gamma(^{45}Cr)$

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π
494+x	(5/2$^+$)	493.6 *4*	100	0+x	(3/2$^+$)

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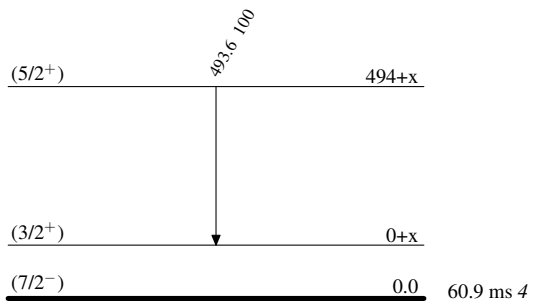
Level Scheme

Intensities: Relative photon branching from each level



$^{45}_{24}Cr_{21}$