^{48}Ca(^{3}He,3nγ) 1976Fo22

Type	Author	History Citation	Literature Cutoff Date
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1976Fo22: E=10-26 MeV ^{3}He beam was produced from the MP-Tandem Van der Graaff generator of the Munich Universities. Target was about 700 μg/cm^2 metallic ^{48}Ca (>95% enriched). γ rays were detected with Ge(Li) detectors. Measured Eγ, Iγ, $\gamma\gamma$-coin, excitation functions. Deduced levels, J, π. Comparisons with theoretical calculations. 1976Fo22 also report data in ^{44}Ca(^{7}Li,p2nγ) and ^{27}Al(^{24}Mg,3pγ).

^{48}Ti Levels

E(level)[†]	J$^\pi$[‡]
0.0	0^+
984.0 *10*	2^+
2296.0 *15*	4^+
3333.0 *17*	6^+
3509.0 *17*	6^+
4565.1 *20*	(8^+)

[†] From a least-squares fit to γ-ray energies, assuming $\Delta E\gamma$=1 keV.

[‡] From 1976Fo22, based on $\gamma(\theta)$ and reaction mechanism dependent arguments which are in common use in other mass regions but not yet well established for f-p shell residues. Arguments hinge basically on the assumption that the dominant decay follows the yrast states, so that strong transitions satisfy $J_i > J_f$. States identified as high spin (>6) are much more weakly populated, relatively, in (^{3}He,3nγ), compared to other reactions in 1976Fo22. This qualitatively supports spin assignments.

$\gamma(^{48}$Ti)

E$_\gamma$[†]	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
177	5.9 *3*	3509.0	6^+	3333.0	6^+
984	100	984.0	2^+	0.0	0^+
1038	18.0 *10*	3333.0	6^+	2296.0	4^+
1212	1.6 *6*	3509.0	6^+	2296.0	4^+
1232	6.7 *6*	4565.1	(8^+)	3333.0	6^+
1312	49 *3*	2296.0	4^+	984.0	2^+

[†] From 1976Fo22.

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Level Scheme

Intensities: Relative I_γ

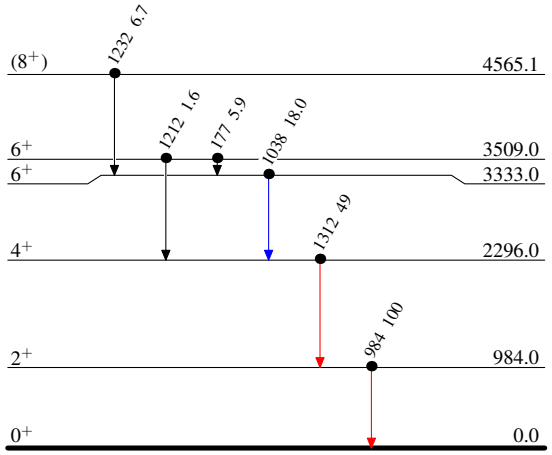
Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

Coincidence



$^{48}_{22}Ti_{26}$