^{164}Dy(^{54}Cr,5nγ) **2007Kh22**

| | | History | |
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 181, 475 (2022)	1-Jan-2022

Enriched (96.8%) ^{164}DyF${}_3$ target (thickness=393 μg/cm^2). ^{54}Cr beam, E=258 MeV, from the UNILAC accelerator at GSI.
Evaporation residues were separated with SHIP velocity filter and implanted in 16 strip Si detector. HPGe detector of four crystals
and particle detectors. Measured Eγ, Iγ, (evaporation residues)γα correlations.

^{213}Th Levels

E(level)[†]	J^π	$T_{1/2}$	Comments
0	$5/2^-$		J^π: From Adopted Levels. Production σ=0.5 μb at 55-MeV excitation energy (2007Kh22).
799 *1*	$(9/2)^-$		J^π: 381γ M2 from $(13/2)^+$.
1180.0 *14*	$(13/2)^+$	1.3 μs *3*	$T_{1/2}$: Weighted average of measured values: 1.0 μs *4* − X-ray(t), 1.7 μs *6* − 381γ(t), 2.4 μs *16* − 799γ(t) in 2007Kh22. 2007Kh22 report the weighted average value of 1.4 μs *4*. J^π: Proposed by 2007Kh22 in analogy of $13/2^+$ isomeric states in ^{205}Po, ^{207}Po, ^{209}Rn, and ^{211}Ra. Production σ=0.16 μb *11* and 0.5 μb *3* at 47- and 55-MeV excitation energy, respectively (2007Kh22).

† From Eγ.

γ(^{213}Th)

I(K x ray)=121 *24* (2007Kh22).

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
381 *1*	100	1180.0	$(13/2)^+$	799	$(9/2)^-$	M2	Mult.: from α(exp)=0.77 *29* (2007Kh22) deduced from intensity balance at 799 level.
799 *1*	177 *29*	799	$(9/2)^-$	0	$5/2^-$		

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Level Scheme

Intensities: Relative I$_\gamma$

Legend

I$_\gamma$ < 2%×I$_\gamma^{max}$
I$_\gamma$ < 10%×I$_\gamma^{max}$
I$_\gamma$ > 10%×I$_\gamma^{max}$

(13/2)$^+$ 381 M2 100   1180.0   1.3 μs 3

(9/2)$^-$ 799 177   799

5/2$^-$ 0

$^{213}_{90}$Th$_{123}$