

¹⁶⁹Re ε decay [1992Me10](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109, 2033 (2008)	1-Jun-2022

Parent: ¹⁶⁹Re: E=0.0; J^π=(9/2⁻); T_{1/2}=8.1 s 5; Q(ε)=6530 30; %ε+%β⁺ decay=100.00 1

¹⁶⁹Re-%ε+%β⁺ decay: Based on estimate of %α(¹⁶⁹Re)=0.01 to 0.001 ([1992Me10](#)).

[1992Me10](#): sources produced by ¹⁴¹Pr+³²S, E(³²S)≈178 MeV; measured E_γ, I_γ, γγ coin, γ(t), γ and α excitation functions.

Insufficient information was obtained by [1992Me10](#) to enable them to construct a decay scheme, primarily because the 101γ is a doublet. See [1992Me10](#) for detailed γγ coin information.

¹⁶⁹W Levels

E(level)	J ^π †
0.0+x	(9/2 ⁻)
145.3+x 3	(11/2 ⁻)

† From Adopted Levels.

γ(¹⁶⁹W)

With the exception of the 124γ and 361γ, all lines observed by [1992Me10](#) are coincident with W x rays, and all but the 124γ are coincident with a 101γ.

E _γ	I _γ †	E _i (level)	J _i ^π	E _f	J _f ^π	Mult.	α‡	Comments
^x 26.5	33 2							
^x 101.2 2	100							Doublet; γ is self-coincident. Assigned to ¹⁶⁹ Re ε decay based on measured 101γ excitation function (1992Me10).
^x 123.7 4	≈10							
145.3 2	17 3	145.3+x	(11/2 ⁻)	0.0+x	(9/2 ⁻)	(M1+E2)	1.3 4	α(K)=0.9 5; α(L)=0.32 11; α(M)=0.08 3; α(N+..)=0.021 8 α(N)=0.018 7; α(O)=0.0027 8; α(P)=8.E-5 6 Mult.: from Adopted Gammas. Placed in accord with adopted placement of a 145γ from the (²⁰ Ne,5nγ) study by 1985Re06 .
^x 210.9 2	20 3							
^x 254.1 4	14 1							
^x 360.5 4	5 1							
^x 392.6 2	14 2							
^x 492.9 2	11 2							
^x 1054.1 4	15 2							

† Photon intensity relative to I_γ=100 for the 101-keV doublet.

‡ Total theoretical internal conversion coefficients, calculated using the BrIcc code ([2008Ki07](#)) with Frozen orbital approximation based on γ-ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

^x γ ray not placed in level scheme.

${}^{169}\text{Re}$ ε decay 1992Me10

Decay Scheme

Intensities: Relative I_γ 