

Adopted Levels

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli		NDS 114, 1041 (2013)	1-Aug-2011

S(n)=6755 SY; S(p)=2528 SY; Q(α)=9804 21 [2012Wa38](#)
 Estimated ΔS(n)=429, ΔS(p)=327 ([2012Wa38](#)).
[Additional information 1](#).

Calculations, compilations:

Favored α decay: [1993Bu09](#).

g.s. properties: [1997Mo25](#), [1995Mo29](#).

Pion decay: [1991Io03](#), [1988Io05](#).

Single-particle levels: [2005Pa73](#), [1994Cw02](#).

Half-life, Q(α): [2010Si27](#), [2008Do12](#), [2008Ro06](#), [2007Zh41](#), [2004Ro21](#).

Half-life, Eα: [2009Do22](#).

[1994Cw02](#) calculate the following single-particle level sequence: g.s. 1/2[620], 0.07 MeV, 3/2[622; 0.13 MeV, 11/2[725]; 0.25 MeV, 7/2[613]; 0.45 MeV, 9/2[734]; 0.61 MeV, 9/2[615].

[2011Ca08](#): ²⁰⁹Bi(⁵¹V,N), ²⁰⁸Pb(⁵²Cr,N).

[2010Wa39](#): ²⁰⁸Pb(⁵²Cr,N).

[2005Zu02](#): ²⁰⁸Pb(⁵⁴Cr,3n).

[2005Za07](#): Synthesis of superheavy nuclei (Review article).

Assignment: ²⁰⁷Pb(⁵⁴Cr,2n), parent of ²⁵⁵Rf (observed SF activity attributed to ²⁵⁵Rf) ([1984De07](#) and [1985Mu11](#)).

Assignment of 7-ms activity to ²⁵⁹Sg in [1974OgZX](#) was not confirmed by [1984De07](#) and [1985Mu11](#).

²⁵⁹Sg Levels

Cross Reference (XREF) Flags

- A ²⁶³Hs α decay
- B ²⁰⁸Pb(⁵²Cr,N)

E(level)	T _{1/2}	XREF	Comments
0.0	0.29 s 5	AB	<p>%α=90 10; %SF<20; %ε≤13</p> <p>J^π: Analogy with ²⁴⁹Cm and ²⁵¹Cf (N=153 nuclei) suggests 1/2⁺ 1/2(620) Nilsson single-particle state for ²⁵⁹Sg g.s. However, a calculated energy (theory, 1994Cw02) for the 11/2⁻ 11/2(725) Nilsson single-particle state suggests this state as the g.s. in ²⁵⁹Sg.</p> <p>T_{1/2}: Weighted average of T_{1/2}=0.32 s +8-6 (2009Fo02) and 0.28 s 5 (2009He20). Other value: 0.48 s +28-13 (1985Mu11).</p> <p>%α: From 1985Mu11, 2009Fo02. Other: ≈100 (1984De07). Other value:≈96% (2009Fo02).</p> <p>%SF: From 1985Mu11, 2000Ho27. Calculated T_{1/2}(SF)≈10 s (1988Lo03).</p> <p>%ε: From 2009Fo02.</p> <p>Deduced from Q(β⁻)values: T_{1/2}(α)=0.6 s, T_{1/2}(ε+β⁺)=7 s, T_{1/2}(SF)=80 s (1995KoZL).</p>