Adopted Levels

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 127, 191 (2015)	1-Jun-2014

Q(β^-)=−4.77×10^3 *SY*; S(n)=7874 *72*; S(p)=4415 *SY*; Q(α)=6670 *10* 2012Wa38
Db-=255 syst, ΔS(p)=61 syst (2012Wa38).
Assignment: ^{239}Pu(α,5n) chem, p ^{234}Pu (6.1-MeV a) 1952Hi63.
2006As03: Produced in ^{237}Np(^{6}Li,5n), E=41-48 MeV at isol facility, measured α(t). Others (same authors): 2003Na10, 2002As08, 2002AsZX.
Delayed fission after $\varepsilon+\beta^+$ decay of ^{238}Bk was observed by 1994Kr03 and 1994La25, but energy level of shape isomer is unknown.
Others:
Discovery of ^{238}Cm: 2013Fr02.
Nuclear Reactions: ^{208}Pb(^{30}Si,X) ^{238}Cm (2013Du17).
Alpha decay, calculated $T_{1/2}$: 2013Ra05, 2013Se17, 2013Wi05, 2013Zd01, 2012Co10, 2012Is08, 2012Po01, 2012Pr09, 2011Zh36, 2010Is01, 2009Ni06, 2009Qi07, 2008Ro06, 2001Mo07.
Calculated Q(α): 2010Wa23.
Cluster decay: ^{238}Cm(^{38}Si): 2012Ba25; ^{238}Cm(^{30}Si): 2012Ku29; ^{238}Cm(^{34}Si): 2012Sa31, 2011Sh13,
Fission: 2009Mo18.

^{238}Cm Levels

E(level)	J$^\pi$	$T_{1/2}$	Comments
0.0	0$^+$	2.2 h *4*	%α=3.84 *18*; %ε=96.16 *18*; %SF=0.048 *2* $T_{1/2}$: From 2006As03 α(t). Others: 2.5 h (1948St43) and 2.3 h (1952Hi63). ε/6520α=240 *50* from disintegration rate and α decay rate (1952Hi63). 1952Hi63 believe that possible systematic errors in counting efficiency could reduce this value by a factor of 3 or 4. %α is obtained from estimated %α to g.s., from systematics of HF and relative Iα to 2$^+$ sate in ^{234}Pu. Revised Eα to ^{234}Pu g.s. is 6558 *10* (2006As03). %SF from ef-K x ray coin (1994Kr03). $T_{1/2}(\alpha)$ systematics for g.s.-to-g.s. transitions from even curium isotopes suggests that α branching is about 5%. Systematics of radius parameter r_0 suggests that α branching is about 4%. Large uncertainties on measured E(α) and $T_{1/2}$ give an upper limit of 10% for the α branching.
35 *7*	2$^+$		E(level): from α decay of ^{242}Cf.