

$^{207}\text{Pb}(^{40}\text{Ar},3\text{n})$ 2008Kh10

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 146, 387 (2017)	31-Aug-2017

[2012Sv02](#), [2013SvZZ](#): Includes $^{206}\text{Pb}(^{40}\text{Ar},2\text{n})$ reaction at U400 cyclotron at the Flerov Laboratory of Nuclear Reactions, JINR, Dubna. Evaporation residues (ER) were separated in flight by the VASILISSA electrostatic separator. Si detector system at the focal plane was used to measure the spontaneous fission (SF) events. Measured half-life from correlations between ER and SF events.

[2008Kh10](#): Includes $^{208}\text{Pb}(^{40}\text{Ar},4\text{n})$ reaction at 201 MeV.

[2008Kh10](#): The ^{40}Ar beams were from the UNILAC linear accelerator at GSI with $E(^{40}\text{Ar}) = 193$ MeV. ^{244}Fm was identified and it decays via spontaneous fission. The evaporation residues were selected using the SHIP velocity filter at GSI and studied with a 16-strip Si detector, two time-of-flight detectors and an HPGe Clover detector. Measured ER-SF and ER- α correlated event (ER=evaporation residue), half-life and fission branching.

No isomers were found in this study.

Other heavy ion induced reactions: [1989Ii02](#), [1979Ga06](#).

 ^{244}Fm Levels

E(level)	$T_{1/2}$	Comments
0	3.12 ms 8	<p>$\%SF > 97$; $\%\alpha < 1$; $\%\epsilon < 2$ SF, α decay and ϵ branching ratios deduced by 2008Kh10. $\%\alpha$: The α decays observed in 2008Kh10, could not be distinguished from decay of ground and isomeric states of ^{214}Fr. Hence an upper limit was deduced for the α branching. $\%\epsilon$: An upper limit for the ϵ branching was deduced by 2008Kh10 by observing α decays from ^{244}Cf. ^{244}Cf is thought to be the grand-daughter from ϵ decay of ^{244}Fm ($^{244}\text{Fm} \rightarrow ^{244}\text{Es} \rightarrow ^{244}\text{Cf}$). However authors (2008Kh10) state that the events from ^{244}Cf are likely due to the production of ^{244}Es from the p2n evaporation channel and hence only an upper limit for the ϵ branching was deduced. $T_{1/2}$: From 2008Kh10 from a total of 1700 SF decay events. Others (from heavy ion induced reactions): 3.47 ms 26 (2012Sv02), 4.3 ms +45-16 (1989Ii02), 3.0 ms 5 (1979Ga06), 4.0 ms 5 (1975Og02), 3.3 ms 5 (1967Nu01). $Q_\alpha < 8.6$ MeV (2008Kh10).</p>