^{64}As εp decay (69.0 ms) 2019Ru07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 196,17 (2024)	30-Sep-2023

Parent: ^{64}As: E=0; $T_{1/2}$=69.0 ms *14*; Q(εp)=9730 *syst*; %εp decay=?

^{64}As-J^{π}: 0^+ from systematics in 2021Ko07.

^{64}As-$T_{1/2}$: From Adopted Levels of ^{64}As (2021 update). Other: 63.4 ms *12* from a preliminary result of implant-proton correlation in 2019Ru07.

^{64}As-Q(εp): 9730 *200* (syst,2021Wa16).

2019Ru07: ^{64}As source was produced by fragmentation of E=350 MeV/nucleon ^{78}Kr beam on a ^{9}Be target at RIKEN. Fragments were separated and selected with the BigRIPS separator and implanted into the WAS3ABi device consisting of 3 DSSSDs, surrounded by the EURICA array. Measured Eγ, E(p), implant-p and implant-β correlations. Deduced parent levels, decay $T_{1/2}$.

All data are from 2019Ru07, unless otherwise noted.

Note that results from 2019Ru07 are preliminary as stated by the authors.

^{63}Ga Levels

E(level)	J^{π}[†]
0	$3/2^-$
74.6 *1*	$(5/2)^-$

[†] From Adopted Levels.

γ(^{63}Ga)

E_γ	E_i(level)	J_i^{π}	E_f	J_f^{π}	Comments
74.6 *1*	74.6	$(5/2)^-$	0	$3/2^-$	E_γ: from the decay scheme in Figure 6 of 2019Ru07. But 74.8 *1* read off from the γ spectrum of ^{64}As decay in Figure 3.

Delayed Protons (^{63}Ga)

E(p)[†]	E(^{63}Ga)	E(^{64}Ge)
560 *57*	0	5617
1365 *42*	0	6422
1718 *35*	0	6775
2097 *39*	74.6	7229
2336 *37*	0	7393
2718 *42*	0	7775
3324 *42*	0	8381
3577 *54*	0	8634

[†] From the decay scheme in Figure 6 of 2019Ru07. Note that E(p) values are also given in the proton spectrum of ^{64}Se decay in Figure 4, but none of them match the value quoted here.

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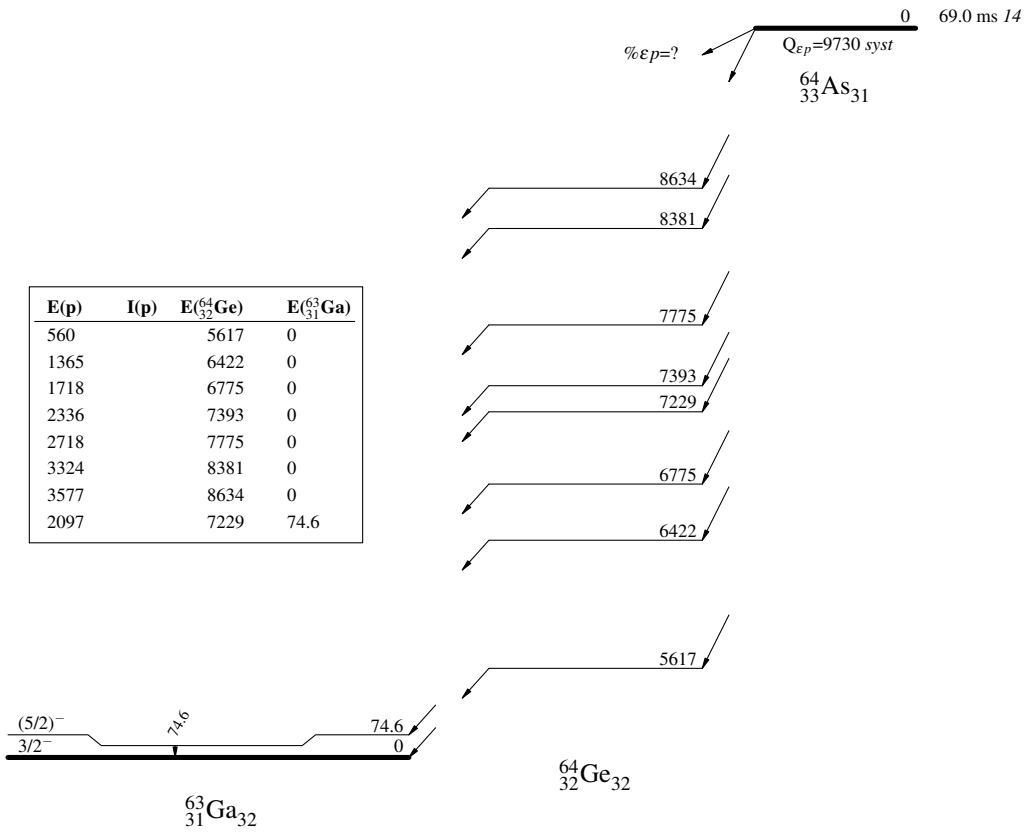
Decay Scheme



E(p)	I(p)	E($^{64}_{32}$Ge)	E($^{63}_{31}$Ga)
560		5617	0
1365		6422	0
1718		6775	0
2336		7393	0
2718		7775	0
3324		8381	0
3577		8634	0
2097		7229	74.6