^{35}P β^- decay (47.3 s) 1986Wa22

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, John Cameron and Balraj Singh	NDS 112,2715 (2011)	20-Oct-2011

Parent: ^{35}P: E=0; $J^\pi=1/2^+$; $T_{1/2}$=47.3 s *8*; Q(β^-)=3988.4 *19*; %β^- decay=100.0

^{35}P-Q(β^-): From 2011AuZZ. Other: 3988.6 *19* (2003Au03).

^{35}P-J^π,$T_{1/2}$: From Adopted Levels of ^{35}P.

1986Wa22: Activity of ^{35}P produced by the reaction of ^{36}S(t,$\alpha\gamma$) with a 100 nA, 3.4 MeV triton beam. An intrinsic coaxial Ge detector for detecting γ-rays. Measured Eγ, Iγ. Deduced $T_{1/2}$ for ^{35}P, levels, log *ft*.

1971Gr53: Activity of ^{35}P produced by the reaction of ^{37}Cl(γ,2p). A NaI(Tl) detector for detecting γ-rays. Measured Eγ. Deduced $T_{1/2}$ for ^{35}P, levels for ^{35}S.

1972Ap01: Activity of ^{35}P produced by bombardment of LiCl and NaCl with 16 MeV tritons at the Los Alamos tandem van de Graaff. An 85 cm^3 Ge(Li) detector for detecting γ-rays and an end-window gas-flow proportional counter for β-rays. Measured Eγ, Iγ. Deduced $T_{1/2}$ for ^{35}P, log *ft*, J^π.

1972Go31: Activity of ^{35}P produced with the ^{18}O(^{19}F,2p), ^{36}S(t,α) and ^{34}S(d,pγ) reactions from the second tandem of the Brookhaven National Laboratory (BNL) tandem van de Graaff facility. A 60 cm^3 Ge(Li) detector for detecting γ-rays. Measured Eγ, $\beta\gamma$-coin. Deduced $T_{1/2}$ for ^{35}P, levels, log *ft*.

^{35}S Levels

E(level)†	J^π@	E(level)†	J^π@	E(level)†	J^π@	E(level)†	J^π@
0	$3/2^+$	2350?‡	$3/2^-$	3421?	$5/2^+$	3675?	$(1/2^-,3/2^-)$
1572.29 *3*	$1/2^+$	2721?#	$5/2^+$	3558?	$(3/2^-,5/2^+)$	3802?	$3/2^-$
1994?	$7/2^-$	2938.4 *4*	$3/2^+$	3597?	$(1/2$ to $7/2)^+$		

† From 1986Wa22, unless otherwise noted.
‡ From 1972Ap01 and 1986Wa22.
# From 1972Ap01, 1972Go31, 1986Wa22.
@ From Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-†‡	Log *ft*	Comments
(186.4# *19*)	3802?	<0.03	>3.5	av Eβ=55.40 *63*
(313.4# *19*)	3675?	<0.02	>4.4	av Eβ=99.39 *69*
(391.4# *19*)	3597?	<0.02	>4.7	av Eβ=127.98 *71*
(430.4# *19*)	3558?	<0.11	>4.1	av Eβ=142.64 *72*
(567.4# *19*)	3421?	<0.02	>5.3	av Eβ=195.84 *76*
(1050.0 *20*)	2938.4	0.47 *3*	4.96 *3*	av Eβ=397.76 *85* Iβ^-: Others: <0.45 (1972Ap01), <8 (1972Go31).
(1267.4# *19*)	2721?	<0.03	>6.5	av Eβ=493.67 *85* Iβ^-: Others: <7 (1972Go31), <0.38 (1972Ap01).
(1638.4# *19*)	2350?	<0.08	>6.5	av Eβ=661.81 *88* Iβ^-: Others: <5 (1972Go31), <0.24 (1972Ap01).
(1994.4# *19*)	1994?	<0.08	>6.9	av Eβ=826.86 *89* Iβ^-: Others: <2.5 (1972Go31), <0.09 (1972Ap01).
(2416.1 *19*)	1572.29	98.80 *3*	4.122 *8*	av Eβ=1025.59 *91* Iβ^-: weighted average of 99 *7* (1972Ap01) and 99.80 *3* (1986Wa22).
(3988.4# *19*)	0	<0.7	>7.3	av Eβ=1782.87 *93* Iβ^-: 100-feeding to 1572+2938 levels. Others: <9 (1972Ap01), 0.73 (1972Go31).

Continued on next page (footnotes at end of table)

^{35}P β^- decay (47.3 s) 1986Wa22 (continued)

β^- radiations (continued)

† From 1986Wa22, unless otherwise noted.
‡ Absolute intensity per 100 decays.
# Existence of this branch is questionable.

$\gamma(^{35}S)$

E_γ‡	I_γ†‡#	E_i(level)	J_i^π	E_f	J_f^π	Comments
1572.25 *3*	98.80 *3*	1572.29	$1/2^+$	0	$3/2^+$	E_γ: weighted average of 1571.8 *2* (1971Gr53), 1572.2 *4* (1972Ap01), 1972.24 *15* (1972Go31) and 1972.256 *24* (1986Wa22).
2938.29 *40*	0.47 *3*	2938.4	$3/2^+$	0	$3/2^+$	

† From 1986Wa22.
‡ From 1986Wa22, unless otherwise noted.
# For absolute intensity per 100 decays, multiply by 1.0074 *5*.

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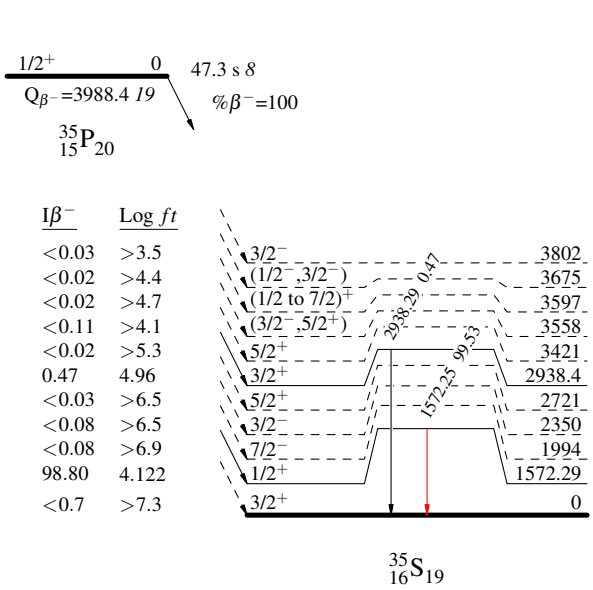
Decay Scheme

Intensities: I_γ per 100 parent decays



$^{35}_{16}S_{19}$