^{37}Ar ε decay (35.011 d)

Type	Author	History Citation	Literature Cutoff Date
Update	Balraj Singh	ENSDF	17-Oct-2012

Parent: ^{37}Ar: E=0; $J^{\pi}=3/2^{+}$; $T_{1/2}$=35.011 d *19*; Q(ε)=813.87 *20*; %ε decay=100.0

^{37}Ar-J^{π},$T_{1/2}$: From Adopted Levels of ^{37}Ar.

^{37}Ar-Q(ε): From 2011AuZZ.

1998Hi17: measured x-ray spectrum, bremsstrahlung photon spectrum, (recoil)(x-ray) and (recoil)(Auger electrons)-coin; deduced limit on massive neutrino admixture.

1993Yo08: measured K-, L-Auger electron spectra.

1988Ha34, 1989Ha11: deduced high intensity ^{37}Ar neutrino source production possibility; analyzed internal bremsstrahlung yield implications.

1989Sk03: analyzed neutrino calibration source conclusions; deduced internal bremsstrahlung neglection role.

1988Va26: measured inner bremsstrahlung asymmetry; deduced hyperfine fields, μ.

1982Ro17, 1977Lo14, 1976Pi08: measured angular correlation of double internal bremsstrahlung following electron capture.

1978Es02: measured K, L x-ray; deduced fluorescence yield.

1974Lj02: measured $\gamma\gamma$-coin; deduced double internal bremsstrahlung probability.

1971GeZN: measured K-, L-, M- shell capture ratios.

1969Hu04: measured L/K capture ratio=0.0987 *3*.

1968Re02: measured M/L capture ratio=0.104 *+6−3*.

1967To04: measured L/K capture ratio=0.098 *3*.

1964Wi15: measured L/K capture ratio.

1962Do06: measured M/L capture ratio=0.102 *4*.

1961Ma30: measured L/K capture ratio=0.0971 *5*.

1960Sa18: measured L/K capture ratio=0.103 *3*.

1959Ki41: measured L/K ratio=0.102 *8*; and $T_{1/2}$=34.30 d *14*.

1958Ma33, 1958Ha21: measured circular polarization of internal bremsstrahlung.

1955Sn90: measured spectra of neutrino recoils of ^{37}Ar decay.

Langevin and Radvanyi, Compt. Rendu 241, 33 (1955): measured L/K ratio.

O. Kofoed-Hansen, Phys. Rev. 96, 1045 (1954): measured spectra of neutrino recoils of ^{37}Ar decay.

1954Em05: measured endpoint of internal bremsstrahlung spectrum.

Anderson et al., Phys. Rev. 90, 606 (1953): measured end-point of inner bremsstrahlung at 815 *15* keV; and $T_{1/2}$ of ^{37}Ar.

Perlman and Miskel, Phys. Rev. 91, 899 (1953); measured average charge on ^{37}Cl produced in decay of ^{37}Ar; and $T_{1/2}$ of ^{37}Ar.

Rodeback and Allen, Phys. Rev. 86, 446 (1952): measured recoil spectra.

Pontecorvo et al., Phys. Rev. 75, 982 (1949): measured L-x rays.

Weimer et al., Phys. Rev. 66, 209 (1944): measured ^{37}Ar half-life, no γ rays were detected.

^{37}Cl Levels

E(level)	J^{π}	$T_{1/2}$
0	$3/2^{+}$	stable

ε radiations

E(decay)	E(level)	Iε[†]	Log *ft*	Comments
(813.87 *20*)	0	100	5.1006 *4*	εK=0.9023; εL=0.08659; εM+=0.01116

[†] Absolute intensity per 100 decays.