Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 147, 382 (2018)	1-Dec-2017

Q(β^-)=3510 *SY*; S(n)=3310 *SY*; S(p)=9770 *SY*; Q(α)=2150 *SY* 2017Wa10
Estimated uncertainties (2017Wa10): 300 for Q(β^-), 360 for S(n), 420 for S(p) and Q(α).
S(2n)=8250 *300*, S(2p)=18550 *500* (syst, 2017Wa10).

^{217}Pb evaluated by B. Singh.

2010Al24: ^{217}Pb nuclide identified in ^{9}Be(^{238}U,X) reaction with a beam energy of 1 GeV/nucleon produced by the SIS synchrotron at GSI facility. Target=2500 mg/cm^2. The fragment residues were analyzed with the high resolving power magnetic spectrometer Fragment separator (FRS). The identification of nuclei was made on the basis of magnetic rigidity, velocity, time-of-flight, energy loss and atomic number of the fragments using two plastic scintillators and two multisampling ionization chambers. The FRS magnet was tuned to center on ^{210}Au, ^{216}Pb, ^{219}Pb, ^{227}At and ^{229}At nuclei along the central trajectory of FRS. Comparisons of measured σ with model predictions using the computer codes COFRA and EPAX. See also previous report 2009Al32 by the same group as 2010Al24.

2017Ca12,2016Ca25: ^{217}Pb produced by fragmentation of E=1 GeV/nucleon ^{238}U beam at GSI on a ^{9}Be target of thickness 1.6 g/cm^2. Reaction products were separated and identified by GSI Fragment Separator (FRS) using Bρ-ΔE-Bρ technique. The FRS tracking detectors were four time-projection chambers (TPCs), two ionization chambers, and thin plastic scintillators for tof measurement. Mass-over-charge (A/Q) ratios were measured for ions analyzed on an event-by-event basis. Finally selected ions of interest were implanted into a stack of double-sided silicon strip detectors SIMBA, which also detected β-decay events. Comparison with theoretical calculations using FRDM+QRPA, DF3+cQRPA KTUY and RHB+RQRPA models. (cQRPA=continuum quasi-random-phase approximation; FRDM=finite−range droplet model; DF3=density functional theory; RHB=relativistic Hartree-Bogoliubov; RQRPA=relativistic QRPA; KTUV=Koura−Tachibana−Uno−Yamada model). Relevance to r-process in nucleosynthesis.

Additional information 1.

^{217}Pb Levels

E(level)	$T_{1/2}$	Comments
0	19.9 s *53*	%β^-=100 The β^- decay is the only decay mode expected. Production cross section measured in 2010Al24, values are given in figure 2, plot of σ versus mass number for Pb isotopes. Statistical uncertainty=10%, systematic uncertainty=20% Production σ=4.80 nb (from e-mail reply of Oct 29, 2010 from H. Alvarez-Pol, which also stated that further analysis was in progress). From A/Z plot (figure 1 in 2010Al24), a large number (certainly more than few hundreds) of events are assigned to ^{217}Pb. $T_{1/2}$: measured by 2017Ca12 (value of 20 s *5* given in 2016Ca25,2014Ca23), from (ion)β correlated decay curve and analyzed by maximum-likelihood method. E(level): the observed 20-s activity is assumed to correspond to the ground state of ^{217}Pb. J^π: 9/2 (1997Mo25, theoretical calculations); $9/2^+$ from systematics (2017Au03).