Th(P,^{19}C) 1988Wo09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, G. C. Sheu	ENSDF	23-March-2017

1986Vi09, 1988Wo09: Mass measurements of several neutron-rich light nuclei were carried out using an improved fitting technique for deducing nuclear mass values from measurements of time-of-flight (ToF) through the LANL/TOFI spectrometer; the ToF through the spectrometer depends on the mass-to-charge ratio and is independent of ion velocity.

The rare isotope species were produced by proton spallation reactions on a Th target. Typical flight times of 500 ns, with timing uncertainties near 180 ps yielded typical mass-to-charge resolutions of 3.6×10^{-4} from analysis of multiple runs that involved multiple charge states.

A mass excess of 32.77 MeV *12* was deduced in (1988Wo09), which compares with 32.30 MeV *24* which was previously deduced in (1986Vi09).

1991Re02, 1991ReZZ, 2008ReZZ: Spallation products from 800 MeV proton bombardment of a ^{232}Th target were captured by a transport line with a mass-to-charge filter and transfered to the TOFI spectrometer at LAMPF. The beamline was separately tuned to transport a number of different nuclides. The ions were implanted in a Si detector, and identification by standard techniques was implemented. The β-delayed neutrons were detected in a polyethylene moderated ^{3}He counter; half-lifes and β-delayed neutron probabilities were deduced from analysis of of the number of implanted ions (per beam pulse) and the rate of β-delayed neutrons detected in the zero-threshold counter. The β-delayed neutron probabilities=β^-n=β_{1n}+2(β_{2n})+3(β_{3n})...=(1991Re02: (53 *26*)%), (1995ReZZ/2008ReZZ: (66 *9*)%) were deduced.

Lifetimes of $T_{1/2}$=44.1 ms *42* (Reeder et al., Int. Conf. on Nucl. Data for Science and Technology, May 9-13, 1994, Gatlinburg, Tennessee: and 44 ms *4* in the unpublished private communications of (2008ReZZ)/(1995ReZZ) were deduced.

^{19}C Levels

E(level)	$T_{1/2}$
0	44.1 ms *42*