^{112}Xe α decay

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2008

Parent: ^{112}Xe: E=0.0; $J^\pi=0^+$; $T_{1/2}$=2.7 s *8*; Q(α)=3330 *6*; %α decay≈0.8
$T_{1/2}(^{112}Xe)$=2.7 s *8*, measured by 1979Sc22, is used in calculations here.

The α branching of 0.8% +11-5 was determined by 1994Pa11. %α≈0.84 was adopted by 1989De33 from measurements of 1978Ro19. For the r_0 calculations, %α=0.8 *+11−5* is used here.

Q(α)(^{112}Xe)=3330 *7* is the recommended value of 1995Au04. The Q(α) value of 3335 *7*, deduced by 1994Pa11 from their measured Eα (not quoted), was used by 1995Au04 as input for their mass adjustment. Eα=3199 *12*, weighted average of Eα's from 1981Sc17 and 1992HeZU yields Q(α)=3317 *12*.

^{108}Te Levels

E(level)	J^π
0.0	0^+

α radiations

Eα	E(level)	Iα[†#]	HF[‡]	Comments
3211 *7*	0.0	100	1.0	Eα: the measured α energies are 3190 *15* (1992HeZU), 3210 *20* (1981Sc17), and 3216 *7* (1994Pa11). The Eα measured by 1994Pa11 was used by 1995Au04 as an input. The adjusted Q(α) value gives Eα=3211 *7*. Iα: only one α group was observed. Intensity of a 2608-keV α to the first 2^+ state at 625 keV (observed in in-beam work) is calculated as Iα(2608α to 2^+)/Iα(3211α to g.s.)<8×10^{-6} by requiring Hf(2608α)>1.

† α intensity per 100 α decays.
‡ $r_0(^{108}Te)$=1.64 *6* is computed from Hf(3211α)=1.0.
# For absolute intensity per 100 decays, multiply by ≈0.0080.