^{92}Br IT decay 2009Fo05

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 113, 2187 (2012)	15-Sep-2012

Parent: ^{92}Br: E=0.0+x; $T_{1/2}$<500 ns; %IT decay=100.0

^{92}Br produced through the ^{9}Be(^{238}U,X) reaction. ^{238}U beam produced at E=8.00 MeV/nucleon by the K500 and K1200 cyclotrons at the National Superconducting Laboratory at Michigan State University. Reaction products were separated using the A1900 fragment separator and detected using two parallel plate avalanche counters, a Si ΔE detector, four Si detectors, and a plastic scintillator. Measurements of the time-of-flight, $\beta\rho$ and total kinetic energy were used to determine the atomic number, mass number and charge state of reaction products. γ's were detected with one HPGe detector. Half-lives were measured using the time difference between implantation events and HPGe events, unsuitable for measuring half-lives of less than 500 ns. Measured particle spectra, Eγ, Iγ, (particle)-γ-coincidence and half-lives of isomeric states.

Isomer with half-life of <500 ns discovered; no level scheme proposed, but several scenarios have been presented in the discussion.

^{92}Br Levels

E(level)	$T_{1/2}$	Comments
0.0		
0.0+x	<500 ns	$T_{1/2}$: from time correlations between ^{92}Br implantation and γ detection.

$\gamma(^{92}Br)$

Iγ normalization: reported γ-ray intensity is per 100 fragments.

E$_\gamma$	I$_\gamma$[†‡]	E$_i$(level)	Comments
[x]99.0 *7*	>8.5		net photopeak counts: 63 *9*.
[x]106.0 *7*	>7.2		net photopeak counts: 58 *9*.
[x]139.0 *7*	>1.1		net photopeak counts: 21 *6*.
[x]155.0 *7*	>9.4		net photopeak counts: 104 *11*.
[x]169.0 *7*	>1.2		net photopeak counts: 16 *5*.
[x]239.0 *7*	>1.1		net photopeak counts: 13 *5*.
[x]259.0 *7*	>9.6		net photopeak counts: 86 *10*.
[x]295.0 *7*	>0.6		net photopeak counts: 7 *4*.
[x]301.0 *7*	>1.2		net photopeak counts: 12 *4*.
[x]780.0 *7*	>1.4		net photopeak counts: 8 *3*.
[x]1039.0 *7*	>2.4		net photopeak counts: 12 *4*.

[†] Photons per 100 fragments; corrected for length of γ gate, In-flight losses while transiting the fragment separator, detector efficiency and randomly-correlated background events. Observed γ photopeak areas are given In comments.

[‡] Absolute intensity per 100 decays.

[x] γ ray not placed in level scheme.