^{138}I β^-n decay 1981Ho07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 108,2173 (2007)	1-Oct-2006

Parent: ^{138}I: E=0.0; $J^\pi=(2^-)$; $T_{1/2}$=6.41 s *6*; Q(β^-n)=1980 *80*; %β^-n decay=5.56 *22*

Measured: delayed n, γ (1981Ho07,1979Ho21).

Delayed neutron emission probability=5.56% 22 (1993Ru01). Others: 5.5% 4 (1980Lu04), 4.5% 9 (1978Kr15), 6.0% 35 (1977Re05),≈7% (1977Sh01), 5.14% 23 (1975Iz03).

E(n)(av)=380 (1982Ru01). Others: 467 *30* (1979KrZT); E(n)≤1400 (1977Re05).

I(588.8γ, ^{138}Xe)/n=10.2 *6* (1981Ho07).

n-feeding to ^{137}Xe g.s. is 79.0% 21 (%β-n=4.39 *22*), to 601 level is 19.8% 21 (%β-n=1.10 *10*), to 986 level is 1.2% 3 (%β-n=0.067 *17*), to>986 levels is<6% (%β^-<0.33) of β^-n decay (1981Ho07).

^{137}Xe Levels

E(level)†	J^π†
0.0	$7/2^-$
601.0	$3/2^-$
986.2	$(1/2)^-$

† Adopted values.

$\gamma(^{137}Xe)$

Iγ normalization: from β^-n decay probability=5.56% 22.

E_γ	I_γ†‡	E_i(level)	J_i^π	E_f	J_f^π
385.2	1.1	986.2	$(1/2)^-$	601.0	$3/2^-$
601.0	20.5	601.0	$3/2^-$	0.0	$7/2^-$

† Assuming I(588γ ^{138}Xe)=1000.

‡ For absolute intensity per 100 decays, multiply by 0.0556 *22*.

Delayed Neutrons (^{137}Xe)

E(^{137}Xe)	I(n)†
0.0	79.0 *21*
601.0	19.8 *21*
986.2	1.2 *3*

† For absolute intensity per 100 decays, multiply by 0.0556 *22*.

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Decay Scheme

Intensities: I_γ per 100 parent decays