

⁸²Sr - Comments on evaluation by M.-M. Bé

This evaluation was completed in December 2014. All literature available by this date was included.

1. Decay Scheme

Sr-82 decays by electron capture to the ground state of Rb-82 ($T_{1/2} = 1,2652$ min). There is no decay to the excited level of Rb-82m ($T_{1/2} = 6,47$ h).

2. Nuclear Data

Q_{EC} -value of 178 (7) keV for Sr-82 EC decay is taken from 2012Wa38.

The following measured values for the half-life of ⁸²Sr have been taken into account:

Reference	$T_{1/2}$ (d)	Comments
1953Kr10	25,5 (5)	
1953Li27	27	omitted
1958Sa20	25,0 (4)	
1978Gr17	25,55 (15)	
1987Ju02	25,342 (41)	Uncertainty calculated as the combination, in quadrature, of the statistic and systematic uncertainties given in the text.
1987Ho06	25,36 (3)	Superseded by 2009Pi02
2009Pi02	25,346 (17)	Weighted mean of two values
Adopted	25,347 (17)	χ^2 crit = 3,3 ; $\chi^2 = 0,7$

The set of five data and their uncertainties is consistent, and their weighted mean value has been adopted along with the lowest experimental uncertainty.

3. Electron Capture Transition

The energy is derived from the Q_{EC} -value, and the fractional probabilities for EC were calculated using the "Tables for Calculation of Electron Capture" (1998Sc28).

4. Atomic Data

The fluorescence yield data, the relative K X-ray emission probabilities, the ratios $P(KLX)/P(KLL)$ and $P(KXY)/P(KLL)$ are from Schönfeld *et al.* (1996Sc06).

The Auger electrons and X-ray absolute intensities were calculated by the EMISSION program (2000Sc47) from the related decay data (P_{EC} sub shell probabilities, etc.) as determined above.

5. Main Production Mode

Rb-85(p, 4n)Sr-82

Nat. Rb(p, xn)Sr-82

6. References

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