^{166}Ir α decay (15.1 ms)   **1997Da07,1996Pa01**

	Type	Author	History Citation	Literature Cutoff Date
	Full Evaluation	N. Nica	NDS 195,1 (2024)	19-Sep-2023

Parent: ^{166}Ir: E=172 *11*; J$^{\pi}$=(9$^+$); T$_{1/2}$=15.1 ms *9*; Q(α)=6722 *6*; %α decay=98.2 *6*

^{166}Ir-E: Additional information 1.
^{166}Ir-J$^{\pi}$: Additional information 2.
^{166}Ir-T$_{1/2}$: Additional information 3.
^{166}Ir-Q(α): Additional information 4.
^{166}Ir-%α decay: Deduced from the measured proton and α intensities, assuming negligible ε+β^+ branching (1997Da07).
Additional information 5.
1997Da07: ^{166}Ir produced in the ^{92}Mo(^{78}Kr,p3n) reaction, with E(^{78}Kr)=384 MeV. Enriched (>97% ^{92}Mo) target of thickness
  580 μg/cm^2, presumably evaporated onto a 700 μg/cm^2 Al backing. The recoil nuclei were separated according to their
  mass-to-charge ratio in the Fragment Mass Analyzer at the ATLAS accelerator facility. After passing through a thin
  position-sensitive parallel-grid avalanche counter, located at the focal plane of the analyzer, the recoils were implanted into a
  double-sided silicon-strip detector. Both position and time correlations between the recoils and their decay products were measured,
  as well as energies and intensities of their emitted radiations. Results include T$_{1/2}$, E(p), %p, Eα, %α.
1996Pa01: ^{166}Ir produced as a fusion evaporation product in the ^{112}Sn+^{58}Ni reaction, with E(^{58}Ni)=297 and 329 MeV. The
  ^{112}Sn target (enrichment not given) was $\approx$0.9 mg/cm^2 thick. The recoil products were separated in flight in the Daresbury recoil
  mass spectrometer and implanted in a double-sided silicon-strip detector. This detector (energy resolution $\leq$20 keV FWHM) was
  used to study position and time correlations of the decay events. Measured energies and intensities of the emitted particles and
  nuclide T$_{1/2}$ values.
For another study, see 1981Ho10. ^{166}Ir produced by ^{58}Ni bombardment. α spectrum of recoil nuclides was measured with a Si
  detector following velocity selection. 1981HoZM give the same data.

^{162}Re Levels

E(level)	J$^{\pi}$	T$_{1/2}$	Comments
173 *13*	(9$^+$)	77 ms *9*	E(level): from adopted values.
			J$^{\pi}$: from adopted values.
			T$_{1/2}$: from adopted values.

α radiations

Eα	E(level)	Iα[‡]	HF[†]	Comments
6560 *5*	173	100	2.25 *19*	Eα: weighted average of 6561 *5* (1997Da07) and 6556 *11* (1996Pa01).
				Iα: only one α group is reported.

[†] The nuclear radius parameter r$_0$(^{162}Re)=1.5562 *69* is deduced from interpolation (or unweighted average) of radius parameters of
  the adjacent even-even nuclides.
[‡] For absolute intensity per 100 decays, multiply by 0.982 *6*.