⁷⁶Se(d,²He) 2008Gr19

	History		
Туре	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Jun Chen and Ameenah R. Farhan	NDS 194,3 (2024)	8-Jan-2024

2008Gr19: E=183 MeV beam provided by KVI, Groningen. The outgoing two protons were analyzed in the Big-Bite magnetic spectrometer (BBS) at 0°, 2.5° and 5°, and detected in coincidence by the EUROSUPERNOVA detector. FWHM=120 keV. Deduced Gamow-Teller strengths and compared with results of (p,n) reaction. Matrix elements for 2ν double- β decay of ⁷⁶Ge were evaluated. DWBA analysis of $\sigma(\theta)$ data. See also 2010Fr01 and 2006Gr08 for analysis. Analysis of B(GT) values: 2012Sa38.

⁷⁶As Levels

B(GT⁺) values and corresponding matrix elements M(GT⁺) have been used by 2008Gr19 together B(GT⁻) values from earlier (p,n) experiments on ⁷⁶Ge to deduce matrix elements for $2\nu\beta\beta$ decay of ⁷⁶Ge.

E(level)	$J^{\pi \dagger}$	$d\sigma/d\Omega$ (mb/sr)	Comments
40	1+,2-	0.087 11	E(level): unresolved structure composed of g.s. 2-, 44-keV, 1^+ and 86-keV, 1^+ . The angular distribution suggests that most of the Gamow-Teller strength is in 44 and/or 86 states.
5 102 2	1+ 0-	0.0(2.0	$B(G1^+)=0.102 I3, M(G1^+)=0.32 2.$
5×10 ² 3	1,2	0.062 8	$B(G1^+)=0.066\ 12,\ M(G1^+)=0.26\ 2.$
1030	1+	0.070 9	B(GT ⁺)=0.076 11, M(GT ⁺)=0.28 2.
1220	2-		
1630	1+	0.071 9	B(GT ⁺)=0.077 11, M(GT ⁺)=0.28 2.
1860	1^{+}	0.114 13	$B(GT^+)=0.141 \ 16, \ M(GT^+)=0.38 \ 2.$
2220	1^{+}	0.063 7	$B(GT^+)=0.078$ 9, $M(GT^+)=0.28$ 2.
2400	2^{+}		

[†] As proposed in figure 2 of 2008Gr19, determined from the shape of $\sigma(\theta)$ distributions.