

$^{98}\text{Mo}(\text{n,n}')(\text{n,n})$  1975Sm04

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, Balraj Singh		NDS 164, 1 (2020)	15-Feb-2020

Includes (pol n,n').

**1975Sm04:** E=1.6-5.5 MeV neutrons were produced via  $^7\text{Li}(\text{p,n})$  reaction at ANL. Target was 98.3% enriched  $^{98}\text{Mo}$  metal powder. Measured  $\sigma(E)$ ,  $\sigma(\theta)$ , time-of-flight method, FWHM $\approx$ 10 keV. Statistical-model calculations. Deduced levels. [1973La06](#) and [1967Sm01](#) are also from the same group.

Others (dealing mainly with cross section and  $\sigma(\theta)$  data for g.s. and first  $2^+$  state):

**2000Sm10:** (n,n), (n,n'): E=4.5-10 MeV. Measured  $\sigma(\theta)$ .

**1995Ko43:** (n,n') E=0.5-9 MeV, measured  $\sigma(\theta)$ .

**1989Ba81:** (n,n) E<3 keV, measured  $\sigma$ .

**1987Ko05:** (n,n) E=143 keV, measured  $\sigma$ .

**1984KuZW:** (n,n') E=8, 10, 11 MeV.

**Additional information 1.**

**1982SmZU:** (n,n') E=1.5-4 MeV, measured  $\sigma(\theta)$ .

**1981Ko15:** (n,n') E=0.8-1.6 MeV, measured  $\sigma$ . Coupled-channel calculations.

**1980Ef01:** (n,n') E=300 keV, analysis of data.

**1979Ra02:** (n,n) E=7, 9, 11, 20, 26 MeV. Measured  $\sigma(\theta)$ .

**1977Fe01** (also **1976FeZI**): (n,n) E=11 MeV, measured  $\sigma(\theta)$ .

**1973La06:** (n,n') E=0.1-1.5 MeV, measured  $\sigma(\theta)$ .

**1972BrYN:** (n,n') E=1.5-8.5 MeV, measured  $\sigma(\theta)$ .

**1967Sm01:** (n,n') E=0.3-1.5 MeV, measured  $\sigma(\theta)$ .

**1964Bu06:** (pol n,n') E=3.25 MeV.

**1962Do12:** (n,n') E=2-3 MeV.

 $^{98}\text{Mo}$  Levels

E(level)	$J^{\pi\ddagger}$	Comments
0		
740 10	(0 <sup>+</sup> )	
780 10	(2 <sup>+</sup> )	
1440 20	(2 <sup>+</sup> )	
1510 20	(4 <sup>+</sup> )	
1780 20	(2 <sup>+</sup> )	
1960 <sup>†</sup> 30		
2070 30	(2 <sup>+</sup> )	
2200 <sup>†</sup> 30	(4 <sup>+</sup> & 2 <sup>+</sup> )	
2250? 50		E(level): probably due to $^7\text{Li}(\text{p,n})^7\text{Be}$ reaction.
2380 <sup>†</sup> 50		
2500 <sup>†</sup> 70		
$2.70 \times 10^3$ <sup>†</sup> 10		
$2.90 \times 10^3$ <sup>†</sup> 10		

<sup>†</sup> Probably unresolved multiplet of several states.

<sup>‡</sup> From statistical-model calculations. These assignments are considered tentative by the evaluator.