1 H(14 O,d) 2012Su21

	History		
Туре	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, C. G. Sheu and J. E. Purcell	NDS 198,1 (2024)	1-Aug-2024

2012Su21: XUNDL dataset compiled by TUNL, 2012.

The authors measured ¹⁴O(p,d) at E(¹⁴O)=51 MeV/nucleon using a hydrogen gas target mounted in the SPEG/GANIL target chamber and using position sensitive Si strip arrays to detect the deuteron recoils (MUST2 and RIKEN Si telescope). The energy and angular distributions of deuterons were measured in coincidence with ¹³O and ¹²N (from ¹³O* ->¹²N + p) recoils. A distorted wave analysis of the angular distributions is given as well as a discussion on the breakdown of Z=8 shell closure. 2023Po05: ¹H(¹⁴O,¹³O) E=94 MeV/nucleon at RIKEN/RIBF; they also studied ¹H(¹⁴O,¹³N). Measured the parallel momentum

distributions and reaction cross sections. Analyzed quasifree knockout and other mechanisms. Deduced S=3.42 in DWIA analysis.

¹³O Levels

E(level) [†]	$J^{\pi \dagger}$	$T_{1/2}$ or Γ^{\dagger}	L†	S	Comments
0.0	3/2-	8.58 ms 5	1	2.1 4	$T_{1/2}$: From Adopted Levels. E(level): Observed at $E_x = -0.2$ MeV 3.
2.8×10 ³ 3	1/2 ⁺ ,(1/2 ⁻ to 5/2 ⁺)	<0.3 MeV	0,(1,2)		$J^{\pi}=1/2^+, (1/2^-, 3/2^-, 3/2^+, 5/2^+).$ The authors suggest this state corresponds to the 2.7 MeV $J^{\pi}=1/2^+$ level of (2007Sk02), though participation of a second $\Delta L=1$ or 2 state can not be ruled out. Discussion on the spectroscopic factors for the various doublet combination is given in Table 1.
$4.2 \times 10^3 \ 3$	$(1/2^-, 3/2, 5/2^+)$	<0.5 MeV	(1,2)		Discussion on the spectroscopic factors is given in Table 1.

[†] From (2021Su21). Note: systematic uncertainty of 0.2 MeV is included.

 $^{13}_{8}O_{5}$