^{2}H(^{20}O,P),(^{20}O,pγ)   **2011Fe06**

		History	
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	R. B. Firestone	NDS 127, 1 (2015)	15-Jan-2015

^{20}O beam, E=10.5 MeV/nucleon from the SPIRAL facility at GANIL impinged on a 0.59 mg/cm^2 thick Cd$_2$ target. (d,p) reaction channel selected by identifying beam-like residue with the VAMOS spectrometer and kinematics of the proton measured by the TIARA silicon array. γ-rays detected by four clover detectors in close-packed geometry. The excitation energy of ^{21}O were determined by the energy of recoiling photons and coincident γ-rays. Measured Ep, Ip, $\sigma(\theta)$, fragment-particle-gamma triple coincidence and differential cross sections. Deduced levels, J, π, spectroscopic factors. Comparison with shell-model calculations.

^{21}O Levels

E(level)	$J^{\pi\dagger}$	L	C^{2}S	Comments
0.0	5/2$^+$	2	0.34 8	
1213 7	1/2$^+$	0	0.77 19	
4.77×10^3 10	3/2$^+$	2	0.58 14	J^π: 3/2$^+$, 5/2$^+$ from L=2, but 5/2$^+$ strength is considered exhausted by the L=2, 5/2$^+$ g.s.
				E(level): Neutron unbound state corresponding to E$_{res}$=0.96 MeV 10 with Γ=0.46 MeV 20.
6.17×10^3 11	(3/2$^+$,7/2$^-$)	2,3	0.30,0.20	L: L=2 fit is better than L=3.
				C^{2}S: 0.30 7 for L=2. 0.20 5 for L=3.
				E(level): Neutron unbound state corresponding to E$_{res}$=2.36 MeV 11 with Γ=0.32 MeV 26.
				J^π: Level energy is consistent with J^π=1/2$^-$, 3/2$^-$ level observed in ^{21}N β decay. As the L-transfer is indeterminate, the evaluator has assumed it is the same level observed in decay.

† From L-transfers and shell-model predictions, except as noted.

γ(^{21}O)

E$_\gamma$	E$_i$(level)	J^π_i	E$_f$	J^π_f	Comments
1213 7	1213	1/2$^+$	0.0	5/2$^+$	E$_\gamma$: From (particle)γ coin.

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Level Scheme

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 1/2+        1213        1213
                │
                │
                │
                ↓
 5/2+                    0.0
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$^{21}_{8}O_{13}$

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