

${}^1\text{H}({}^{74}\text{Ni},\text{p}'\gamma)$ 2010Ao01

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Balraj Singh	ENSDF	31-Mar-2017

2010Ao01: 81 MeV/nucleon ${}^{74}\text{Ni}$ beam was produced from fragmentation of 140 MeV/nucleon ${}^{86}\text{Kr}$ beam. Liquid hydrogen target with a thickness of 210 mg/cm² was used. The reaction products were analyzed by the S800 spectrograph. The γ rays emitted from excited states of ${}^{74}\text{Ni}$ were detected by a barrel array of NaI(Tl) detectors surrounding the liquid hydrogen target.

 ${}^{74}\text{Ni}$ Levels

E(level) [†]	J^π	Comments
0	0 ⁺	
1020 11	2 ⁺	J^π : From Adopted Levels. $\sigma(\text{p},\text{p}')=14$ mb 4. The quoted uncertainty contains statistical (20%) and systematic components. The cross section was obtained with and without considering feeding by 786 γ , and also assuming 25% 5 contribution from an expected, but unobserved, 3 ⁻ state at 2-3 MeV. Deduced $\beta_2=0.21$ 3 from deformation length $\delta(\text{p},\text{p}')=1.04$ fm 16.
1806? 30		E(level): this level may correspond to 1763, (4 ⁺) level in the Adopted Levels (evaluator).

[†] From E γ values.

 $\gamma({}^{74}\text{Ni})$

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
786 [†] 30	20 20	1806?		1020	2 ⁺
1020 11	100	1020	2 ⁺	0	0 ⁺

[†] Placement of transition in the level scheme is uncertain.

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Level Scheme

Intensities: Relative I_γ

Legend

- ▶ $I_\gamma < 2\% \times I_\gamma^{max}$
- ▶ $I_\gamma < 10\% \times I_\gamma^{max}$
- ▶ $I_\gamma > 10\% \times I_\gamma^{max}$
- - - -▶ γ Decay (Uncertain)

