^{16}O(p,π^+) 1988Hu02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. G. Sheu, J. H. Kelley, J. Purcell	ENSDF	5-Aug-2021

1974Da23: ^{16}O(p,π^+), E=185 MeV; measured σ(E(π^+),θ). ^{17}O deduced levels.
1979Ma38: ^{16}O(p,π^+), E=0.5-10 MeV above threshold; measured σ.
1979Ma39: ^{16}O(p,π^+), E=8-16 MeV above threshold; measured inclusive σ; deduced A-dependence.
1979PiZU: ^{16}O(p,π^+), E=140-175 MeV; measured $\sigma(\theta)$. QDDM spectrograph.
1979SoZY: ^{16}O(p,π^+), E=200 MeV; measured σ(Eπ).
1981Sj02: ^{16}O(pol. p,π^+), E=147-159 MeV; measured $\sigma(\theta)$, analyzing power vs θ.
1981Sj03: ^{16}O(p,π^+), E=149-166 MeV; measured $\sigma(\theta)$. DWBA analysis, stripping model.
1987AzZZ: ^{16}O(p,π^+),(pol. ,π^+), E=200 MeV; measured $\sigma(\theta)$, analyzing power vs θ. ^{17}O deduced levels, configuration.
1987HuZY: ^{16}O(pol. p,π^+), E=200-489 MeV; measured $\sigma(\theta)$, analyzing powers.
1988AzZZ: ^{16}O(pol. p,π^+), E=200 MeV; measured $\sigma(\theta)$, analyzing power vs θ. ^{17}O deduced levels, J, π, t, configuration.
1988Hu02: ^{16}O(pol. p,π^+), E=250,354,489 MeV; measured $\sigma(\theta)$, analyzing power vs θ; deduced similarities to nucleon-nucleon interation pion production.
1988Hu06: ^{16}O(pol. p,π+X), E=250,354,489 MeV; measured inclusive $\sigma(\theta(\pi)$, E(π)), analyzing power vs missing four momentum squared; deduced comparisons with elementary pp→dπ^+ reaction, implications for the pion production mechanism.

Theory:
1973Ei01,1973Ei05: ^{16}O(p,π^+), E=600 MeV; calculated σ.
1974Mi06: ^{16}O(p,π^+), E=185 MeV; calculated $\sigma(\theta$,E(πi$^+$)).
1977Br01: ^{16}O(p,π^+), E=150-190 MeV; calculated σ(E).
1978Yo02: ^{16}O(pol. p,π^+), E=200 MeV; calculated asymmetry.
1981Co18: ^{16}O(pol. p,π^+), E=160 MeV; calculated analyzing power vs θ.
1982Co07: ^{16}O(pol. p,π^+), E=157 MeV; caculated $\sigma(\theta)$, A(θ); E=185,165,157,154 MeV; calculated $\sigma(\theta)$. DWBA, Dirac equation, different pion-nucleon verticies.
1986Co20: ^{16}O(p,π^+),(pol. ,π^+), E=350 MeV; calculated $\sigma(\theta)$, analyzing power vs θ. Relativistic stripping model, isobar resonance region.
1989Co04: ^{16}O(p,π^+), E=200 MeV; calculated $\sigma(\theta)$. High intermediate momenta suppression.
1992Be37: ^{16}O(pol. p,π^+), E=200-354 MeV; calculated $\sigma(\theta)$, analyzing power vs θ; deduced Δ-isobar role. Microscopic model.
1995Kr11: ^{16}O(p,π^+), E=489,800 MeV; calculated $\sigma(\theta)$. Impulse approximation, momentum space, relativistic wave functions.
1995Kr12: ^{16}O(p,π^+), E=800 MeV; calculated $\sigma(\theta)$.
1995Sh10: ^{16}O(p,π^+), E=800 MeV; calculated $\sigma(\theta)$. Fully convariant two-nucleon model.
2017Ol06: ^{16}O(p,π^+), E=3,25 GeV; analyzed available data; deduced partial inelasticity coefficients of fragments, σ.

^{17}O Levels

E(level)[†]	J$^\pi$	Comments
0[‡@&a]	5/2$^+$[#]	
871[‡&a]		
3055[&]		
3841[‡&]		
4552[&]		
5.08×10^3[&]		E(level): Not reported in (1988Hu02).
5218[@]	(9/2$^-$)[#]	
5733		
6356		
6972		
7379		
7757[@]	11/2$^-$[#]	

Continued on next page (footnotes at end of table)

^{16}O(p,π^+) 1988Hu02 (continued)

^{17}O Levels (continued)

E(level)†	E(level)†	E(level)†	E(level)†	Jπ
8200	9.15×10^3?	12274	14.76×10^3@	
8466?	9783	13484	15.78×10^3	(13/2$^-$)#
8967	11238	14.15×10^3@	17.1×10^3	(7/2$^-$)#

† From Fig. 2 of (1988Hu02).
‡ reported in (1974Da23).
# From (1988Hu02).
@ Reported in (1987AzZZ,1988AzZZ).
& Reported in (1979Ma38).
a Reported in (1981Sj02,1981Sj03).