

$^{13}\text{C}(\gamma, \text{p})$ 1983Zu02

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

[1956Co72,1957Co57](#): $^{13}\text{C}(\gamma, \text{p})$ $E_\gamma \approx 5$ to 42 MeV; a broad $\Gamma \approx 6$ MeV giant resonance structure near $E_\gamma = 25.5$ MeV has been reported.

[1964De12](#): $^{13}\text{C}(\gamma, \text{p})$ $E_\gamma \approx 15$ to 32 MeV; structures are reported at $E_\gamma = 18.5, 20.0, 23.5, 26.0$ and 29.0 MeV. The dominant peak is near 23.5 MeV with $\Gamma \approx 3$ MeV.

[1964Ko09](#): $^{13}\text{C}(\gamma, \text{p})$ $E_{\text{brem.}} = 31.5$ MeV; the energy spectra of photoprotons was investigated.

[1975Pa09](#): $^{13}\text{C}(\gamma, \text{p}\gamma')$ $E < 44$ MeV; measured $\sigma(E, E_{\gamma'})$. Deduced giant resonance structure.

[1983Zu02](#): $^{13}\text{C}(\gamma, \text{p})$ $E = 17.5$ -28 MeV bremsstrahlung; measured $\sigma(E)$. Deduced GDR isospin splitting, $T_<$ and $T_>$ appear to be split by 6.8 MeV. Activation technique.

Theory:

[1972Go27](#): $^{13}\text{C}(\gamma, \text{p})$ $E < 30$ MeV; calculated $\sigma(E)$; analyzed giant resonance structure.

[1973KiZl](#), [1973KiZj](#): $^{13}\text{C}(\gamma, \text{p})$; calculated $\sigma(E_p)$.

[1977Ma06](#): $^{13}\text{C}(\gamma, \text{p})$; calculated σ . ^{13}C calculated GDR decay properties.

[1993Mc02](#): $^{13}\text{C}(\gamma, \text{p})$ $E < 36$ MeV; analyzed $\sigma(E)$; deduced isospin component splitting.

[2017Dz03](#): $^{13}\text{C}(\gamma, \text{p})$ $E < 50$ MeV; analyzed photoproton σ for applications.

 ^{13}C LevelsE(level)[†]

18600[‡]
 19700?
 20700[‡]
 22000?
 23500
 24500
 26000?

[†] From ([1983Zu02](#)). In ([1964De12](#)) structures are reported at $E_\gamma = 18.5, 20.0, 23.5$ ($\Gamma \approx 3$ MeV), 26.0, 29.0 MeV. See also a broad maximum at $E_\gamma \approx 25.5$ MeV with $\sigma = 8.8$ mb ([1956Co72,1957Co57](#)) and $\Gamma \approx 6$ MeV ([1957Co57](#)). The integrated cross section from $E_\gamma = 17.5$ (threshold) to 28 MeV is 36 MeV·mb 5 ([1983Zu02](#)).

[‡] State has a significant $T_>$ component ([1983Zu02](#)).