^{11}B(π^-,D4HE),^{10}B(π^-,P4HE)　　2009Gu03

	History		
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. E. Purcell, C. G. Sheu	ENSDF	28-Feb-2019

2009Gu03,2016Gu21: ^{11}B(π^-,d^{4}He), ^{11}B(π^-,t^{3}He), ^{10}B(π^-,p^{4}He), ^{10}B(π^-,d^{3}He).

Beams of negative pions were slowed in a Be moderator and stopped in thin ^{10}B or ^{11}B target that was located between a set of two silicon detectors that faced each other. The energies of p, d, t and ^{3,4}He charged particles emitted following capture reactions were analyzed to deduce the missing mass spectrum. The missing mass resolution was 3.0 MeV 1 and the error in reference to the energy scale did not exceed 200 keV.

In each case, the missing mass spectra could be fit with a single resonance. In ^{11}B(π^-,t^{3}He) a resonance near $\approx$5 MeV was observed at E_{res}=5.6 MeV 10 with Γ=4 MeV 2. In the other reactions, a resonance near $\approx$10 MeV was populated at E_{res}=9.7 MeV 10 with Γ=7.3 MeV 30 (^{11}B(π^-,d^{4}He)), and at E_{res}=11.5 MeV 10 with Γ=8.2 MeV 30 (^{10}B(π^-,p^{4}He)).

See similar discussion in (2016Gu21).

^{5}H Levels

E(level)[†]	Γ	E_{res}(^{3}H+2n)(MeV)	Comments
3.2×10^3 11	2 MeV 2	5.6 10	E(level),Γ: From ^{11}B(π^-,t^{3}He).
8.2×10^3 11	7.8 MeV 30	10.6 10	E(level),Γ: From ^{11}B(π^-,d^{4}He) and ^{10}B(π^-,p^{4}He).

[†] From E_{res}-$E_{g.s.}$=E_{res}−2.4 MeV 3.