

$\pi(1300)$

$$J^G(J^{PC}) = 1^-(0^-+)$$

$\pi(1300)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
1300±100 OUR ESTIMATE				
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1128± 26±70		DARGENT	17	RVUE $D^0 \rightarrow \pi^- \pi^+ \pi^- \pi^+$
1345± 8±10	18k	¹ SCHEGELSKY	06	RVUE $\gamma\gamma \rightarrow \pi^+ \pi^- \pi^0$
1200± 40	90k	SALVINI	04	OBLX $\bar{p}p \rightarrow 2\pi^+ 2\pi^-$
1343± 15±24		CHUNG	02	B852 $18.3 \pi^- p \rightarrow \pi^+ \pi^- \pi^- p$
1375± 40		ABELE	01	CBAR $0.0 \bar{p}d \rightarrow \pi^- 4\pi^0 p$
1275± 15		BERTIN	97D	OBLX $0.05 \bar{p}p \rightarrow 2\pi^+ 2\pi^-$
~ 1114		ABELE	96	CBAR $0.0 \bar{p}p \rightarrow 5\pi^0$
1190± 30		ZIELINSKI	84	SPEC $200 \pi^+ Z \rightarrow Z 3\pi$
1240± 30		BELLINI	82	SPEC $40 \pi^- A \rightarrow A 3\pi$
1273± 50		² AARON	81	RVUE
1342± 20		BONESINI	81	OMEG $12 \pi^- p \rightarrow p 3\pi$
~ 1400		DAUM	81B	SPEC $63,94 \pi^- p$
¹ From analysis of L3 data at 183–209 GeV.				
² Uses multichannel Aitchison-Bowler model (BOWLER 75). Uses data from DAUM 80 and DANKOWYCH 81.				

$\pi(1300)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
200 to 600 OUR ESTIMATE				
• • • We do not use the following data for averages, fits, limits, etc. • • •				
314± 39±66		DARGENT	17	RVUE $D^0 \rightarrow \pi^- \pi^+ \pi^- \pi^+$
260± 20±30	18k	³ SCHEGELSKY	06	RVUE $\gamma\gamma \rightarrow \pi^+ \pi^- \pi^0$
470±120	90k	SALVINI	04	OBLX $\bar{p}p \rightarrow 2\pi^+ 2\pi^-$
449± 39±47		CHUNG	02	B852 $18.3 \pi^- p \rightarrow \pi^+ \pi^- \pi^- p$
268± 50		ABELE	01	CBAR $0.0 \bar{p}d \rightarrow \pi^- 4\pi^0 p$
218±100		BERTIN	97D	OBLX $0.05 \bar{p}p \rightarrow 2\pi^+ 2\pi^-$
~ 340		ABELE	96	CBAR $0.0 \bar{p}p \rightarrow 5\pi^0$
440± 80		ZIELINSKI	84	SPEC $200 \pi^+ Z \rightarrow Z 3\pi$
360±120		BELLINI	82	SPEC $40 \pi^- A \rightarrow A 3\pi$
580±100		⁴ AARON	81	RVUE
220± 70		BONESINI	81	OMEG $12 \pi^- p \rightarrow p 3\pi$
~ 600		DAUM	81B	SPEC $63,94 \pi^- p$
³ From analysis of L3 data at 183–209 GeV.				
⁴ Uses multichannel Aitchison-Bowler model (BOWLER 75). Uses data from DAUM 80 and DANKOWYCH 81.				

$\pi(1300)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $\rho\pi$	seen
Γ_2 $\pi(\pi\pi)_{S\text{-wave}}$	seen
Γ_3 $\gamma\gamma$	

 $\pi(1300)$ $\Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total})$

$\Gamma(\rho\pi) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$					$\Gamma_1\Gamma_3/\Gamma$
VALUE (keV)	CL%	DOCUMENT ID	TECN	COMMENT	
<0.085	90	ACCIARRI	97T L3	$e^+e^- \rightarrow e^+e^-\pi^+\pi^-\pi^0$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.8	95	⁵ SCHEGELSKY 06	RVUE	$\gamma\gamma \rightarrow \pi^+\pi^-\pi^0$	
<0.54	90	ALBRECHT	97B ARG	$e^+e^- \rightarrow e^+e^-\pi^+\pi^-\pi^0$	
⁵ From analysis of L3 data at 183–209 GeV.					

 $\pi(1300)$ BRANCHING RATIOS

$\Gamma(\pi(\pi\pi)_{S\text{-wave}})/\Gamma(\rho\pi)$					Γ_2/Γ_1
VALUE	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2.2 $\pm$ 0.4		90k	SALVINI	04 OBLX	$\bar{p}p \rightarrow 2\pi^+2\pi^-$
seen			CHUNG	02 B852	$18.3\pi^-p \rightarrow \pi^+2\pi^-p$
<0.15	90		ABELE	01 CBAR	$0.0\bar{p}d \rightarrow \pi^-4\pi^0p$
2.12			⁶ AARON	81 RVUE	
⁶ Uses multichannel Aitchison-Bowler model (BOWLER 75). Uses data from DAUM 80 and DANKOWYCH 81.					

 $\pi(1300)$ REFERENCES

DARGENT	17	JHEP 1705 143	P. dArgent <i>et al.</i>	(HEID, BRIS)
SCHEGELSKY	06	EPJ A27 199	V.A. Schegelsky <i>et al.</i>	
SALVINI	04	EPJ C35 21	P. Salvini <i>et al.</i>	(OBELIX Collab.)
CHUNG	02	PR D65 072001	S.U. Chung <i>et al.</i>	(BNL E852 Collab.)
ABELE	01	EPJ C19 667	A. Abele <i>et al.</i>	(Crystal Barrel Collab.)
ACCIARRI	97T	PL B413 147	M. Acciarri <i>et al.</i>	(L3 Collab.)
ALBRECHT	97B	ZPHY C74 469	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
BERTIN	97D	PL B414 220	A. Bertin <i>et al.</i>	(OBELIX Collab.)
ABELE	96	PL B380 453	A. Abele <i>et al.</i>	(Crystal Barrel Collab.)
ZIELINSKI	84	PR D30 1855	M. Zielinski <i>et al.</i>	(ROCH, MINN, FNAL)
BELLINI	82	PRL 48 1697	G. Bellini <i>et al.</i>	(MILA, BGNA, JINR)
AARON	81	PR D24 1207	R.A. Aaron, R.S. Longacre	(NEAS, BNL)
BONESINI	81	PL 103B 75	M. Bonesini <i>et al.</i>	(MILA, LIVP, DARE+)
DANKOWY...	81	PRL 46 580	J.A. Dankowych <i>et al.</i>	(TNT0, BNL, CARL+)
DAUM	81B	NP B182 269	C. Daum <i>et al.</i>	(AMST, CERN, CRAC, MPIM+)
DAUM	80	PL 89B 281	C. Daum <i>et al.</i>	(AMST, CERN, CRAC, MPIM+)
BOWLER	75	NP B97 227	M.G. Bowler <i>et al.</i>	(OXFTP, DARE)