NODE=M164

$\pi_1(1600)$

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

$\pi_1(1600)$ MASS

NODE=M164205

NODE=M164M

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
1662^{+15}_{-11} OUR AVERAGE	Error includes scale factor of 1.2.				
$1664 \pm 8 \pm 10$	145k	[1] LU	05	B852	$18\ \pi^- p \to \omega \pi^- \pi^0 p$
$1709 \pm 24 \pm 41$	69k	[2] KUHN	04	B852	$18\ \pi^- p \to \eta \pi^+ \pi^- \pi^- p$
$1597 \pm 10^{+45}_{-10}$		[2] IVANOV	01	B852	$18\ \pi^- p \to \eta' \pi^- p$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$1593 \pm 8^{+29}_{-47}$		[2,3] ADAMS	98B	B852	$18.3\ \pi^- p \to \pi^+ \pi^- \pi^- p$

[1] May be a different state: natural and unnatural parity exchanges. NODE=M164M;LINKAGE=LU

[2] Natural parity exchange. NODE=M164M;LINKAGE=A

[3] Superseded by DZIERBA 06 excluding this state in a more refined PWA analysis, with 2.6 M events of $\pi^- p \to \pi^- \pi^- \pi^+ p$ and 3 M events of $\pi^- p \to \pi^- \pi^0 \pi^0 p$ of E852 data. NODE=M164M;LINKAGE=DZ

$\pi_1(1600)$ WIDTH

NODE=M164210

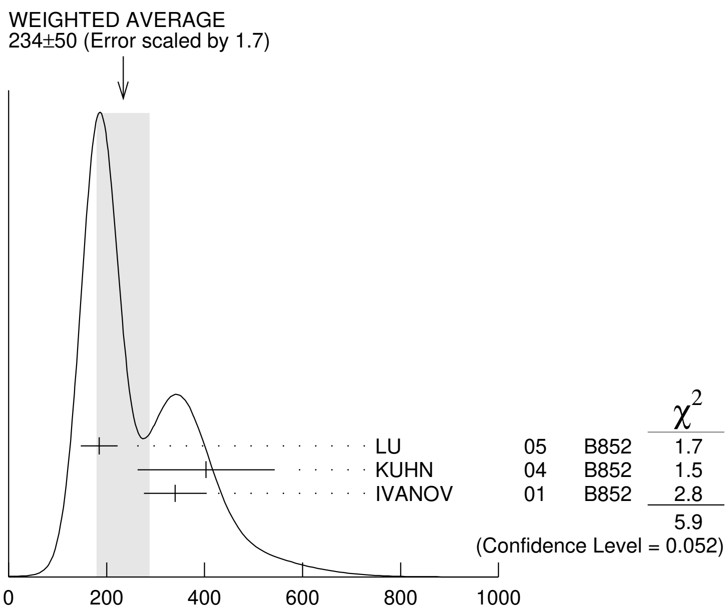
NODE=M164W

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
234 ± 50 OUR AVERAGE	Error includes scale factor of 1.7. See the ideogram below.				
$185 \pm 25 \pm 28$	145k	[4] LU	05	B852	$18\ \pi^- p \to \omega \pi^- \pi^0 p$
$403 \pm 80 \pm 115$	69k	[5] KUHN	04	B852	$18\ \pi^- p \to \eta \pi^+ \pi^- \pi^- p$
$340 \pm 40 \pm 50$		[5] IVANOV	01	B852	$18\ \pi^- p \to \eta' \pi^- p$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$168 \pm 20^{+150}_{-12}$		[5,6] ADAMS	98B	B852	$18.3\ \pi^- p \to \pi^+ \pi^- \pi^- p$

[4] May be a different state: natural and unnatural parity exchanges. NODE=M164W;LINKAGE=LU

[5] Natural parity exchange. NODE=M164W;LINKAGE=A

[6] Superseded by DZIERBA 06 excluding this state in a more refined PWA analysis, with 2.6 M events of $\pi^- p \to \pi^- \pi^- \pi^+ p$ and 3 M events of $\pi^- p \to \pi^- \pi^0 \pi^0 p$ of E852 data. NODE=M164W;LINKAGE=DZ



$\pi_1(1600)$ width (MeV)

$\pi_1(1600)$ DECAY MODES

NODE=M164215;NODE=M164

	Mode	Fraction (Γ_i/Γ)	
Γ_1	$\pi\pi\pi$	not seen	DESIG=1;OUR EST;→ NOT CHECKED ←
Γ_2	$\rho^0\pi^-$	not seen	DESIG=2
Γ_3	$f_2(1270)\pi^-$	not seen	DESIG=4
Γ_4	$b_1(1235)\pi$	seen	DESIG=5
Γ_5	$\eta'(958)\pi^-$	seen	DESIG=3
Γ_6	$f_1(1285)\pi$	seen	DESIG=6;OUR EST;→ NOT CHECKED ←

$\pi_1(1600)$ BRANCHING RATIOS

NODE=M164220

$\Gamma(\rho^0\pi^-)/\Gamma_{total}$ Γ_2/Γ

NODE=M164R1
NODE=M164R1

VALUE	DOCUMENT ID		TECN	COMMENT
not seen	[7] DZIERBA	06	B852	18 $\pi^- p$

[7] From the PWA analysis of 2.6 M $\pi^- p \to \pi^-\pi^-\pi^+ p$ and 3 M events of $\pi^- p \to \pi^-\pi^0\pi^0 p$ of E852 data. Supersedes ADAMS 98B.

NODE=M164R1;LINKAGE=DZ

$\Gamma(f_2(1270)\pi^-)/\Gamma_{total}$ Γ_3/Γ

NODE=M164R3
NODE=M164R3

VALUE	DOCUMENT ID		TECN	COMMENT
not seen	[8] DZIERBA	06	B852	18 $\pi^- p$

[8] From the PWA analysis of 2.6 M $\pi^- p \to \pi^-\pi^-\pi^+ p$ and 3 M events of $\pi^- p \to \pi^-\pi^0\pi^0 p$ of E852 data. Supersedes CHUNG 02.

NODE=M164R3;LINKAGE=DZ

$\Gamma(b_1(1235)\pi)/\Gamma_{total}$ Γ_4/Γ

NODE=M164R4
NODE=M164R4

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
seen	35280	[9] BAKER	03	SPEC	$\bar{p}p \to \omega\pi^+\pi^-\pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
seen	145k	LU	05	B852	18 $\pi^- p \to \omega\pi^-\pi^0 p$

ERROR=1

$\Gamma(\eta'(958)\pi^-)/\Gamma_{total}$ Γ_5/Γ

NODE=M164R2
NODE=M164R2

VALUE	DOCUMENT ID		TECN	COMMENT
seen	IVANOV	01	B852	18 $\pi^- p \to \eta'\pi^- p$

$\Gamma(f_1(1285)\pi)/\Gamma(\eta'(958)\pi^-)$ Γ_6/Γ_5

NODE=M164R5
NODE=M164R5

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
3.80±0.78	69k	[10] KUHN	04	B852	18 $\pi^- p \to \eta\pi^+\pi^-\pi^- p$

[9] $B((b_1\pi)_{D-wave})/B((b_1\pi)_{S\text{-wave}})=0.3 \pm 0.1$.

NODE=M164R;LINKAGE=RB

[10] Using $\eta'(958)\pi$ data from IVANOV 01.

NODE=M164R;LINKAGE=KU

$\pi_1(1600)$ REFERENCES

NODE=M164

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