NODE=M170

$\rho(1900)$

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

OMITTED FROM SUMMARY TABLE

See the review on "Spectroscopy of Light Meson Resonances." NODE=M170

$\rho(1900)$ MASS

NODE=M170M

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT	
• • • We do not use the following data for averages, fits, limits, etc. • • •						
1880 ± 10		[1] ABLIKIM	22L	BES3	2.0–3.08 $e^+e^- \to K^+K^-\pi^0$	
$1909\pm17\pm25$	54	[2] AUBERT	08S	BABR	10.6 $e^+e^- \to \phi\pi^0\gamma$	
1880 ± 30		AUBERT	06D	BABR	10.6 $e^+e^- \to 3\pi^+3\pi^-\gamma$	
1860 ± 20		AUBERT	06D	BABR	10.6 $e^+e^- \to 2(\pi^+\pi^-\pi^0)\gamma$	OCCUR=2
1910 ± 10		[3,4] FRABETTI	04	E687	$\gamma p \to 3\pi^+3\pi^- p$	
1870 ± 10		ANTONELLI	96	SPEC	$e^+e^- \to$ hadrons	

[1] From a partial wave amplitude analysis at $\sqrt{s} = 2.125$ GeV which includes all the possible intermediate states that match J^{PC} conservation in the subsequent two-body decay. The intermediate states are parameterized with the relativistic Breit-Wigner functions. Statistical error only. NODE=M170M;LINKAGE=A

[2] From the fit with two resonances. NODE=M170M;LINKAGE=AU

[3] From a fit with two resonances with the JACOB 72 continuum. NODE=M170M;LINKAGE=PI

[4] Supersedes FRABETTI 01. NODE=M170M;LINKAGE=RS

$\rho(1900)$ WIDTH

NODE=M170W

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT	
• • • We do not use the following data for averages, fits, limits, etc. • • •						
69 ± 15		[1] ABLIKIM	22L	BES3	2.0–3.08 $e^+e^- \to K^+K^-\pi^0$	
$48\pm17\pm2$	54	[2] AUBERT	08S	BABR	10.6 $e^+e^- \to \phi\pi^0\gamma$	
130 ± 30		AUBERT	06D	BABR	10.6 $e^+e^- \to 3\pi^+3\pi^-\gamma$	
160 ± 20		AUBERT	06D	BABR	10.6 $e^+e^- \to 2(\pi^+\pi^-\pi^0)\gamma$	OCCUR=2
37 ± 13		[3,4] FRABETTI	04	E687	$\gamma p \to 3\pi^+3\pi^- p$	
10 ± 5		ANTONELLI	96	SPEC	$e^+e^- \to$ hadrons	

[1] From a partial wave amplitude analysis at $\sqrt{s} = 2.125$ GeV which includes all the possible intermediate states that match J^{PC} conservation in the subsequent two-body decay. The intermediate states are parameterized with the relativistic Breit-Wigner functions. Statistical error only. NODE=M170W;LINKAGE=A

[2] From the fit with two resonances. NODE=M170W;LINKAGE=AU

[3] From a fit with two resonances with the JACOB 72 continuum. NODE=M170W;LINKAGE=PI

[4] Supersedes FRABETTI 01. NODE=M170W;LINKAGE=RS

$\rho(1900)\ \Gamma(i)\Gamma(e^+e^-)/\Gamma^2(\text{total})$

NODE=M170215

$\Gamma(\phi\pi)/\Gamma_{\text{total}} \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ **$\Gamma_4/\Gamma \times \Gamma_6/\Gamma$** NODE=M170B01

VALUE (units 10^{-8})	EVTS	DOCUMENT ID		TECN	COMMENT	NODE=M170B01
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$4.2\pm1.2\pm0.8$	54	[1] AUBERT	08S	BABR	10.6 $e^+e^- \to \phi\pi^0\gamma$	

[1] From the fit with two resonances. NODE=M170B01;LINKAGE=AU

$\rho(1900)$ DECAY MODES

NODE=M170225;NODE=M170

	Mode	Fraction (Γ_i/Γ)	
Γ_1	6π	seen	DESIG=5;OUR EST;→ UNCHECKED ←
Γ_2	$3\pi^+3\pi^-$	seen	DESIG=1;OUR EST;→ UNCHECKED ←
Γ_3	$2\pi^+2\pi^-2\pi^0$		DESIG=6
Γ_4	$\phi\pi$	seen	DESIG=7;OUR EST;→ UNCHECKED ←
Γ_5	hadrons	seen	DESIG=2;OUR EST;→ UNCHECKED ←
Γ_6	e^+e^-	seen	DESIG=3;OUR EST;→ UNCHECKED ←
Γ_7	$\overline{N}N$	not seen	DESIG=4;OUR EST;→ UNCHECKED ←

$\rho(1900)$ BRANCHING RATIOS

NODE=M170230

$\Gamma(6\pi)/\Gamma_{total}$ — Γ_1/Γ

NODE=M170R1
NODE=M170R1

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
seen	8k	AKHMETSHIN	13	CMD3	$e^+e^- \to 3\pi^+3\pi^-$
not seen		AGNELLO	02	OBLX	$\bar{n}p \to 3\pi^+2\pi^-\pi^0$
seen		FRABETTI	01	E687	$\gamma p \to 3\pi^+3\pi^- p$
seen		ANTONELLI	96	SPEC	$e^+e^- \to$ hadrons

$\rho(1900)$ REFERENCES

NODE=M170

ABLIKIM	22L	JHEP 2207 045	M. Ablikim *et al.*	(BESIII Collab.)
AKHMETSHIN	13	PL B723 82	R.R. Akhmetshin *et al.*	(CMD-3 Collab.)
AUBERT	08S	PR D77 092002	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	06D	PR D73 052003	B. Aubert *et al.*	(BABAR Collab.)
FRABETTI	04	PL B578 290	P.L. Frabetti *et al.*	(FNAL E687 Collab.)
AGNELLO	02	PL B527 39	M. Agnello *et al.*	(OBELIX Collab.)
FRABETTI	01	PL B514 240	P.L. Frabetti *et al.*	(FNAL E687 Collab.)
ANTONELLI	96	PL B365 427	A. Antonelli *et al.*	(FENICE Collab.)
JACOB	72	PR D5 1847	M. Jacob, R. Slansky	

REFID=61649
REFID=55370
REFID=52242
REFID=51047
REFID=49614
REFID=48576
REFID=48350
REFID=44633
REFID=49668