

Reference = AULCHENKO 15; PR D91 052013  
Verifier code = DRUZHININ

*PLEASE READ NOW*



Normally we send all verifications for one experiment to one person, usually the spokesperson or data-analysis coordinator, who then distributes them to the appropriate people. Please tell us if we should send the verifications for your experiment to someone else.

Vladimir P. Druzhinin

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July 21, 2016

Dear Colleague,

- (1) Please check the results of your experiment carefully. They are marked.
- (2) Please reply within one week.
- (3) Please reply even if everything is correct.
- (4) IMPORTANT!! Please tell WHICH papers you are verifying. We have lots of requests out.
- (5) Feel free to make comments on our treatment of any of the results (not just yours) you see.

Thank you for helping us make the Review accurate and useful.

Sincerely,

Simon Eidelman  
BINP, Budker Inst. of Nuclear Physics  
Prospekt Lavrent'eva 11  
RU-630090 Novosibirsk  
Russian Federation

EMAIL: [simon.eidelman@cern.ch](mailto:simon.eidelman@cern.ch)

# LIGHT UNFLAVORED MESONS

## ( $S = C = B = 0$ )

For  $l = 1$  ( $\pi, b, \rho, a$ ):  $u\bar{d}, (u\bar{u}-d\bar{d})/\sqrt{2}, d\bar{u}$ ;  
for  $l = 0$  ( $\eta, \eta', h, h', \omega, \phi, f, f'$ ):  $c_1(u\bar{u} + d\bar{d}) + c_2(s\bar{s})$

NODE=MXXX005

NODE=MXXX005

NODE=M105

 **$\rho(1450)$** 

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

See our mini-review under the  $\rho(1700)$ .

NODE=M105

### $\rho(1450) \Gamma(i)/\Gamma(\text{total}) \times \Gamma(e^+ e^-)/\Gamma(\text{total})$

NODE=M105230

 $\Gamma(\eta\rho)/\Gamma_{\text{total}} \times \Gamma(e^+ e^-)/\Gamma_{\text{total}}$ 
 $\Gamma_{10}/\Gamma \times \Gamma_9/\Gamma$ 

VALUE (units $10^{-7}$ )	EVTS	DOCUMENT ID	TECN	COMMENT
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
YOUR DATA	$4.3^{+1.1}_{-0.9} \pm 0.2$	4.9k	<sup>1</sup> AULCHENKO 15	SND 1.22–2.00 $e^+ e^- \rightarrow \eta\pi^+\pi^-$
YOUR NOTE	<sup>1</sup> From a fit to the $e^+ e^- \rightarrow \eta\pi^+\pi^-$ cross section with vector meson dominance model including $\rho(770)$ , $\rho(1450)$ , and $\rho(1700)$ decaying exclusively via $\eta\rho(770)$ . Masses and widths of vector states are fixed to PDG 14. Coupling constants are assumed to be real.			

NODE=M105R00  
NODE=M105R00

● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●

YOUR DATA	$4.3^{+1.1}_{-0.9} \pm 0.2$	4.9k	<sup>1</sup> AULCHENKO 15	SND 1.22–2.00 $e^+ e^- \rightarrow \eta\pi^+\pi^-$
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YOUR NOTE <sup>1</sup> From a fit to the  $e^+ e^- \rightarrow \eta\pi^+\pi^-$  cross section with vector meson dominance model including  $\rho(770)$ ,  $\rho(1450)$ , and  $\rho(1700)$  decaying exclusively via  $\eta\rho(770)$ . Masses and widths of vector states are fixed to PDG 14. Coupling constants are assumed to be real.

NODE=M105R00;LINKAGE=A

### $\rho(1450)$ BRANCHING RATIOS

NODE=M105225

 $\Gamma(\eta\rho)/\Gamma(\omega\pi)$ 
 $\Gamma_{10}/\Gamma_3$ 

VALUE	DOCUMENT ID	TECN	COMMENT
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
YOUR DATA	$0.081 \pm 0.020$	<sup>1,2</sup> AULCHENKO 15	SND 1.22–2.00 $e^+ e^- \rightarrow \eta\pi^+\pi^-$
	$\sim 0.24$	<sup>3</sup> DONNACHIE 91	RVUE
	$>2$	FUKUI 91	SPEC 8.95 $\pi^- p \rightarrow \omega\pi^0 n$
YOUR NOTE	<sup>1</sup> From a fit to the $e^+ e^- \rightarrow \eta\pi^+\pi^-$ cross section with vector meson dominance model including $\rho(770)$ , $\rho(1450)$ , and $\rho(1700)$ decaying exclusively via $\eta\rho(770)$ . Masses and widths of vector states are fixed to PDG 14. Coupling constants are assumed to be real.		
YOUR NOTE	<sup>2</sup> Reports the inverse of the quoted value as $12.3 \pm 3.1$ .		
YOUR NOTE	<sup>3</sup> Using data from BISELLO 91B, DOLINSKY 86 and ALBRECHT 87L.		

NODE=M105R4  
NODE=M105R4

YOUR DATA	$0.081 \pm 0.020$	<sup>1,2</sup> AULCHENKO 15	SND 1.22–2.00 $e^+ e^- \rightarrow \eta\pi^+\pi^-$
	$\sim 0.24$	<sup>3</sup> DONNACHIE 91	RVUE
	$>2$	FUKUI 91	SPEC 8.95 $\pi^- p \rightarrow \omega\pi^0 n$

 $\Gamma(\pi\pi)/\Gamma(\eta\rho)$ 
 $\Gamma_1/\Gamma_{10}$ 

VALUE	DOCUMENT ID	TECN	COMMENT
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
YOUR DATA	$1.3 \pm 0.4$	<sup>1</sup> AULCHENKO 15	SND 1.22–2.00 $e^+ e^- \rightarrow \eta\pi^+\pi^-$
YOUR NOTE	<sup>1</sup> From a fit to the $e^+ e^- \rightarrow \eta\pi^+\pi^-$ cross section with vector meson dominance model including $\rho(770)$ , $\rho(1450)$ , and $\rho(1700)$ decaying exclusively via $\eta\rho(770)$ . Masses and widths of vector states are fixed to PDG 14. Coupling constants are assumed to be real.		
YOUR NOTE	<sup>2</sup> Reports the inverse of the quoted value as $12.3 \pm 3.1$ .		
YOUR NOTE	<sup>3</sup> Using data from BISELLO 91B, DOLINSKY 86 and ALBRECHT 87L.		

NODE=M105R07  
NODE=M105R07

YOUR DATA	$1.3 \pm 0.4$	<sup>1</sup> AULCHENKO 15	SND 1.22–2.00 $e^+ e^- \rightarrow \eta\pi^+\pi^-$
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YOUR NOTE <sup>1</sup> From a fit to the  $e^+ e^- \rightarrow \eta\pi^+\pi^-$  cross section with vector meson dominance model including  $\rho(770)$ ,  $\rho(1450)$ , and  $\rho(1700)$  decaying exclusively via  $\eta\rho(770)$ . Masses and widths of vector states are fixed to PDG 14. Coupling constants are assumed to be real.

NODE=M105R4;LINKAGE=A

YOUR NOTE <sup>2</sup> Reports the inverse of the quoted value as  $12.3 \pm 3.1$ .

NODE=M105R4;LINKAGE=B

YOUR NOTE <sup>3</sup> Using data from BISELLO 91B, DOLINSKY 86 and ALBRECHT 87L.

NODE=M105R;LINKAGE=A

### $\rho(1450)$ REFERENCES

NODE=M105

YOUR PAPER	AULCHENKO 15	PR D91 052013	V.M. Aulchenko <i>et al.</i>	(SND Collab.)	REFID=56793
	PDG 14	CPC 38 070001	K. Olive <i>et al.</i>	(PDG Collab.)	REFID=55687
	BISELLO 91B	NPBPS B21 111	D. Bisello	(DM2 Collab.)	REFID=41752
	DONNACHIE 91	ZPHY C51 689	A. Donnachie, A.B. Clegg	(MCHS, LANC)	REFID=41632
	FUKUI 91	PL B257 241	S. Fukui <i>et al.</i>	(SUGI, NAGO, KEK, KYOT+)	REFID=41581
	ALBRECHT 87L	PL B185 223	H. Albrecht <i>et al.</i>	(ARGUS Collab.)	REFID=40418
	DOLINSKY 86	PL B174 453	S.I. Dolinsky <i>et al.</i>	(NOVO)	REFID=20246