Reference = ARNALDI 16; PL B757 437
Verifier code = URAS

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

PLEASE READ NOW

PLEASE REPLY WITHIN ONE WEEK

Antonio Uras

EMAIL: antonio.uras@cern.ch

March 20, 2017

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

LIGHT UNFLAVORED MESONS
$(S = C = B = 0)$

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

$\omega(782)$

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

$\omega(782)$ BRANCHING RATIOS

$\Gamma(\pi^0\mu^+\mu^-)/\Gamma_{total}$ $\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad$ Γ_7/Γ

	VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
	1.34±0.19 OUR AVERAGE		Error includes scale factor of 1.5. See the ideogram below.			
YOUR DATA	1.41±0.09±0.15		ARNALDI	16	NA60	400 GeV (p-A) collisions
	1.72±0.25±0.14	3k	ARNALDI	09	NA60	158A In–In collisions
	0.96±0.23		DZHELYADIN	81B	CNTR	25–33 $\pi^- p \to \omega n$

PARAMETER Λ IN $\omega \to \pi^0\mu^+\mu^-$ DECAY

In the pole approximation the electromagnetic transition form factor for a resonance of mass M is given by the expression:
$$|F|^2 = (1 - M^2/\Lambda^2)^{-2},$$
where for the parameter Λ vector dominance predicts $\Lambda = M_p \approx 0.770$ GeV. The ARNALDI 09 measurement is in obvious conflict with this expectation. Note that for $\eta \to \mu^+\mu^-\gamma$ decay ARNALDI 09 and DZHELYADIN 80 obtain the value of Λ consistent with vector dominance.

	VALUE (GeV)	EVTS		DOCUMENT ID		TECN	COMMENT
	0.670 ±0.006 OUR AVERAGE						
YOUR DATA	0.6707±0.0039±0.0056		[1]	ARNALDI	16	NA60	400 GeV (p-A) collisions
	0.668 ±0.009 ±0.003	3k	[2]	ARNALDI	09	NA60	158A In–In collisions
	• • • We do not use the following data for averages, fits, limits, etc. • • •						
	0.65 ±0.03			DZHELYADIN	81B	CNTR	25–33 $\pi^- p \to \omega n$

YOUR NOTE

[1] ARNALDI 16 reports $\Lambda^{-2}(\omega) = 2.223 \pm 0.026 \pm 0.037$ GeV^{-2} which we converted to the quoted Λ value.

[2] ARNALDI 09 reports $\Lambda^{-2}(\omega) = 2.24 \pm 0.06 \pm 0.02$ GeV^{-2} which we converted to the quoted Λ value.

$\omega(782)$ REFERENCES

YOUR PAPER

ARNALDI	16	PL B757 437	R. Arnaldi *et al.*	(NA60 Collab.)
ARNALDI	09	PL B677 260	R. Arnaldi *et al.*	(NA60 Collab.)
DZHELYADIN	81B	PL 102B 296	R.I. Dzhelyadin *et al.*	(SERP)
DZHELYADIN	80	PL 94B 548	R.I. Dzhelyadin *et al.*	(SERP)