Meson Full Listings

$\phi(1020)$

$\phi(1020)$ BRANCHING RATIOS

$\Gamma(K^+K^-)/\Gamma_{total}$ Γ_1/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.491±0.009 OUR FIT	Error includes scale factor of 1.3.				
0.496±0.019 OUR AVERAGE					
0.44 ±0.05	321	KALBFLEISCH	76	HBC	2.18 $K^-p \to \Lambda K^+K^-$
0.49 ±0.06	270	DEGROOT	74	HBC	4.2 $K^-p \to \Lambda\phi$
0.540±0.034	565	BALAKIN	71	OSPK	$e^+e^- \to K^+K^-$
0.486±0.044		CHATELUS	71	OSPK	e^+e^-
0.48 ±0.04	252	LINDSEY	66	HBC	2.1–2.7 $K^-p \to \Lambda K^+K^-$

$\Gamma(K_L^0K_S^0)/\Gamma_{total}$ Γ_2/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.343±0.007 OUR FIT	Error includes scale factor of 1.2.				
0.333±0.009 OUR AVERAGE					
0.326±0.035		DOLINSKY	91	ND	$e^+e^- \to K_L^0K_S^0$
0.310±0.024		DRUZHININ	84	ND	$e^+e^- \to K_L^0K_S^0$
0.338±0.010		KURDADZE	84	OLYA	$e^+e^- \to K_L^0K_S^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.27 ±0.03	133	KALBFLEISCH	76	HBC	2.18 $K^-p \to \Lambda K_L^0K_S^0$
0.257±0.030	95	BALAKIN	71	OSPK	$e^+e^- \to K_L^0K_S^0$
0.40 ±0.04	167	LINDSEY	66	HBC	2.1–2.7 $K^-p \to \Lambda K_L^0K_S^0$

$[\Gamma(\rho\pi)+\Gamma(\pi^+\pi^-\pi^0)]/\Gamma_{total}$ $(\Gamma_3+\Gamma_4)/\Gamma$

VALUE	DOCUMENT ID		TECN	COMMENT
0.153±0.006 OUR FIT	Error includes scale factor of 1.3.			
0.148±0.006 OUR AVERAGE	Error includes scale factor of 1.1.			
0.143±0.007	DOLINSKY	91	ND	$e^+e^- \to \pi^+\pi^-\pi^0$
0.155±0.008	KURDADZE	84	OLYA	$e^+e^- \to \pi^+\pi^-\pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.139±0.007	[7] PARROUR	76B	OSPK	e^+e^-

[7] Using total width 4.1 MeV. The $\rho\pi$ to 3π mode is more than 80%. at the 90% confidence level.

$\Gamma(K_L^0K_S^0)/\Gamma(K\overline{K})$ $\Gamma_2/(\Gamma_1+\Gamma_2)$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.411±0.008 OUR FIT	Error includes scale factor of 1.2.				
0.45 ±0.04 OUR AVERAGE					
0.44 ±0.07		LONDON	66	HBC	2.24 $K^-p \to \Lambda K\overline{K}$
0.48 ±0.07	52	BADIER	65B	HBC	3 K^-p
0.40 ±0.10	34	SCHLEIN	63	HBC	1.95 $K^-p \to \Lambda K\overline{K}$

$[\Gamma(\rho\pi)+\Gamma(\pi^+\pi^-\pi^0)]/\Gamma(K\overline{K})$ $(\Gamma_3+\Gamma_4)/(\Gamma_1+\Gamma_2)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.184±0.009 OUR FIT	Error includes scale factor of 1.3.			
0.24 ±0.04 OUR AVERAGE				
0.237±0.039	CERRADA	77B	HBC	4.2 $K^-p \to \Lambda 3\pi$
0.30 ±0.15	LONDON	66	HBC	2.24 $K^-p \to \Lambda\pi^+\pi^-\pi^0$

$[\Gamma(\rho\pi)+\Gamma(\pi^+\pi^-\pi^0)]/\Gamma(K_L^0K_S^0)$ $(\Gamma_3+\Gamma_4)/\Gamma_2$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.447±0.021 OUR FIT	Error includes scale factor of 1.3.				
0.51 ±0.05 OUR AVERAGE					
0.56 ±0.07	3681	BUKIN	78C	OLYA	$e^+e^- \to K_L^0K_S^0$, $\pi^+\pi^-\pi^0$
0.47 ±0.06	516	COSME	74	OSPK	$e^+e^- \to \pi^+\pi^-\pi^0$

$\Gamma(\mu^+\mu^-)/\Gamma_{total}$ Γ_8/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
2.48±0.34 OUR AVERAGE				
2.69±0.46	[8] HAYES	71	CNTR	8.3,9.8 $\gamma C \to \mu^+\mu^- X$
2.17±0.60	[8] EARLES	70	CNTR	6.0 $\gamma C \to \mu^+\mu^- X$
2.34±1.01	MOY	69	CNTR	5.0 $\gamma C \to \mu^+\mu^- X$

[8] Neglecting interference between resonance and continuum.

$\Gamma(\eta\gamma)/\Gamma_{total}$ Γ_5/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0128±0.0006 OUR FIT	Error includes scale factor of 1.2.				
0.0128±0.0007 OUR AVERAGE	Error includes scale factor of 1.2.				
0.0130±0.0006		[9] DRUZHININ	84	ND	$e^+e^- \to 3\gamma$
0.014 ±0.002		[10] DRUZHININ	84	ND	$e^+e^- \to 6\gamma$
0.0088±0.0020	290	KURDADZE	83C	OLYA	$e^+e^- \to 3\gamma$
0.0135±0.0029		ANDREWS	77	CNTR	6.7–10 γ Cu
0.015 ±0.004	54	[9] COSME	76	OSPK	e^+e^-

[9] From 2γ decay mode of η.
[10] From $3\pi^0$ decay mode of η.

$\Gamma(\pi^+\pi^-\gamma)/\Gamma_{total}$ Γ_{13}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.007	90	COSME	74	OSPK	$e^+e^- \to \pi^+\pi^-\gamma$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.06	90	KALBFLEISCH	75	HBC	2.18 $K^-p \to \Lambda\pi^+\pi^-\gamma$
<0.04	99	LINDSEY	65	HBC	2.1–2.7 $K^-p \to \Lambda\pi^+\pi^-$ neutrals

$\Gamma(\omega\gamma)/\Gamma_{total}$ Γ_{11}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.05	84	LINDSEY	66	HBC	2.1–2.7 $K^-p \to \Lambda\pi^+\pi^-$ neutrals

$\Gamma(\rho\gamma)/\Gamma_{total}$ Γ_{12}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.02	84	LINDSEY	66	HBC	2.1–2.7 $K^-p \to \Lambda\pi^+\pi^-$ neutrals

$\Gamma(e^+e^-)/\Gamma_{total}$ Γ_7/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
3.09±0.07 OUR AVERAGE					
3.05±0.12	13714	KURDADZE	84	OLYA	$e^+e^- \to$ hadrons
3.00±0.21	3681	BUKIN	78C	OLYA	$e^+e^- \to$ hadrons
3.10±0.14		[11] PARROUR	76	OSPK	e^+e^-
3.3 ±0.3		COSME	74	OSPK	$e^+e^- \to$ hadrons
2.81±0.25	681	BALAKIN	71	OSPK	$e^+e^- \to$ hadrons
3.50±0.27		CHATELUS	71	OSPK	e^+e^-

[11] Using total width 4.2 MeV. They detect 3π mode and observe significant interference with ω tail. This is accounted for in the result quoted above.

$\Gamma(\pi^0\gamma)/\Gamma_{total}$ Γ_6/Γ

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
1.31±0.13 OUR AVERAGE					
1.30±0.13		DRUZHININ	84	ND	$e^+e^- \to 3\gamma$
1.4 ±0.5	32	COSME	76	OSPK	e^+e^-

$\Gamma(\pi^+\pi^-)/\Gamma_{total}$ Γ_{10}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
0.8 $^{+0.5}_{-0.4}$ OUR AVERAGE	Error includes scale factor of 1.5.				
0.63 $^{+0.37}_{-0.28}$		[12] GOLUBEV	86	ND	$e^+e^- \to \pi^+\pi^-$
1.94 $^{+1.03}_{-0.81}$		[12] VASSERMAN	81	OLYA	e^+e^-
<6.6	95	BUKIN	78B	OLYA	$e^+e^- \to \pi^+\pi^-$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<4.0	95	JULLIAN	76	OSPK	e^+e^-
<2.7	95	ALVENSLEBEN	72	CNTR	6.7 $\gamma C \to C\pi^+\pi^-$

[12] Using $\Gamma(e^+e^-)/\Gamma_{total} = 3.1 \times 10^{-4}$.

$\Gamma(K_L^0K_S^0)/\Gamma(K^+K^-)$ Γ_2/Γ_1

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.699±0.024 OUR FIT	Error includes scale factor of 1.2.				
0.740±0.031 OUR AVERAGE					
0.70 ±0.06	2732	BUKIN	78C	OLYA	$e^+e^- \to K_L^0K_S^0$
0.82 ±0.08		LOSTY	78	HBC	4.2 $K^-p \to \phi$ hyperon
0.71 ±0.05		LAVEN	77	HBC	10 $K^-p \to K^+K^-\Lambda$
0.71 ±0.08		LYONS	77	HBC	3–4 $K^-p \to \Lambda\phi$
0.89 ±0.10	144	AGUILAR-...	72B	HBC	3.9,4.6 K^-p

$[\Gamma(\rho\pi)+\Gamma(\pi^+\pi^-\pi^0)]/\Gamma(K^+K^-)$ $(\Gamma_3+\Gamma_4)/\Gamma_1$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.313±0.016 OUR FIT	Error includes scale factor of 1.3.				
0.28 ±0.09	34	AGUILAR-...	72B	HBC	3.9,4.6 K^-p

$\Gamma(\eta e^+e^-)/\Gamma_{total}$ Γ_9/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
1.3 $^{+0.8}_{-0.6}$	7	GOLUBEV	85	ND	$e^+e^- \to \gamma\gamma e^+e^-$

$\Gamma(\eta'(958)\gamma)/\Gamma_{total}$ Γ_{17}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<4.1	90	DRUZHININ	87	ND	$e^+e^- \to \gamma\eta\pi^+\pi^-$

$\Gamma(\pi^0\pi^0\gamma)/\Gamma_{total}$ Γ_{15}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
<1	90	DRUZHININ	87	ND	$e^+e^- \to 5\gamma$

$\Gamma(\pi^+\pi^+\pi^-\pi^-\pi^0)/\Gamma_{total}$ Γ_{18}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<1.5	95	BARKOV	88	CMD	$e^+e^- \to \pi^+\pi^-\pi^+\pi^-\pi^0$