$\psi(3770)$

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

ψ(3770) MASS

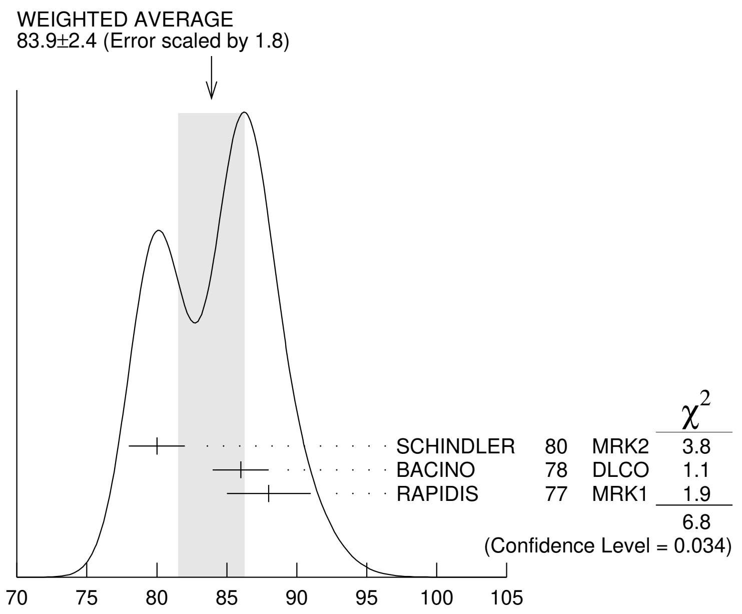
VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
3769.9±2.5 OUR EVALUATION	Error includes scale factor of 1.8. From $m_{\psi(2S)}$ and mass difference below.			
• • • We do not use the following data for averages, fits, limits, etc. • • •				
3764 ±5	[1] SCHINDLER	80	MRK2	$e^+ e^-$
3770 ±6	[1] BACINO	78	DLCO	$e^+ e^-$
3772 ±6	[1] RAPIDIS	77	MRK1	$e^+ e^-$

[1] Errors include systematic common to all experiments.

$m_{\psi(3770)} - m_{\psi(2S)}$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
83.9±2.4 OUR AVERAGE	Error includes scale factor of 1.8. See the ideogram below.			
80 ±2	SCHINDLER	80	MRK2	$e^+ e^-$
86 ±2	[2] BACINO	78	DLCO	$e^+ e^-$
88 ±3	RAPIDIS	77	MRK1	$e^+ e^-$

[2] SPEAR $\psi(2S)$ mass subtracted (see SCHINDLER 80).



$m_{\psi(3770)} - m_{\psi(2S)}$ (MeV)

$\psi(3770)$ WIDTH

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
23.6±2.7 OUR FIT Error includes scale factor of 1.1.				
25.3±2.9 OUR AVERAGE				
24 ±5	SCHINDLER	80	MRK2	$e^+ e^-$
24 ±5	BACINO	78	DLCO	$e^+ e^-$
28 ±5	RAPIDIS	77	MRK1	$e^+ e^-$

$\psi(3770)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)	Scale factor
Γ_1	$D\overline{D}$	dominant	
Γ_2	$e^+ e^-$	$(1.12\pm0.17)\times10^{-5}$	1.2

$\psi(3770)$ PARTIAL WIDTHS

$\Gamma(e^+ e^-)$ — Γ_2

VALUE (keV)	*DOCUMENT ID*		*TECN*	*COMMENT*
0.26 ±0.04 OUR FIT Error includes scale factor of 1.2.				
0.24 ±0.05 OUR AVERAGE Error includes scale factor of 1.2.				
0.276±0.050	SCHINDLER	80	MRK2	$e^+ e^-$
0.18 ±0.06	BACINO	78	DLCO	$e^+ e^-$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.37 ±0.09	[3] RAPIDIS	77	MRK1	$e^+ e^-$

[3] See also $\Gamma(e^+ e^-)/\Gamma_{total}$ below.

$\psi(3770)$ BRANCHING RATIOS

$\Gamma(D\overline{D})/\Gamma_{total}$ — Γ_1/Γ

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
dominant	PERUZZI	77	MRK1	$e^+ e^- \rightarrow D\overline{D}$

$\Gamma(e^+ e^-)/\Gamma_{total}$ — Γ_2/Γ

VALUE (units 10^{-5})	*DOCUMENT ID*		*TECN*	*COMMENT*
1.12±0.17 OUR FIT Error includes scale factor of 1.2.				
1.3 ±0.2	RAPIDIS	77	MRK1	$e^+ e^-$

$\psi(3770)$ REFERENCES

SCHINDLER	80	PR D21 2716	R.H. Schindler *et al.*	(Mark II Collab.)
BACINO	78	PRL 40 671	W.J. Bacino *et al.*	(SLAC, UCLA, UCI)
PERUZZI	77	PRL 39 1301	I. Peruzzi *et al.*	(Mark I Collab.)
RAPIDIS	77	PRL 39 526	P.A. Rapidis *et al.*	(Mark I Collab.)