

# $\psi(4040)$

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

## $\psi(4040)$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>4040 ± 10</b>	BRANDELIK	78c DASP	$e^+ e^-$

## $\psi(4040)$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>52 ± 10</b>	BRANDELIK	78c DASP	$e^+ e^-$

## $\psi(4040)$ DECAY MODES

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1$ $e^+ e^-$	$(1.4 \pm 0.4) \times 10^{-5}$
$\Gamma_2$ $D^0 \bar{D}^0$	seen
$\Gamma_3$ $D^*(2007)^0 \bar{D}^0 + \text{c.c.}$	seen
$\Gamma_4$ $D^*(2007)^0 \bar{D}^*(2007)^0$	seen
$\Gamma_5$ $J/\psi(1S)$ hadrons	
$\Gamma_6$ $\mu^+ \mu^-$	

## $\psi(4040)$ PARTIAL WIDTHS

$\Gamma(e^+ e^-)$	DOCUMENT ID	TECN	COMMENT	$\Gamma_1$
<b>0.75 ± 0.15</b>	BRANDELIK	78c DASP	$e^+ e^-$	

## $\psi(4040)$ BRANCHING RATIOS

$\Gamma(e^+ e^-)/\Gamma_{\text{total}}$	DOCUMENT ID	TECN	COMMENT	$\Gamma_1/\Gamma$
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• • • We do not use the following data for averages, fits, limits, etc. • • •

$\sim 1.0$                       FELDMAN    77   MRK1    $e^+ e^-$

$\Gamma(D^0 \bar{D}^0)/\Gamma(D^*(2007)^0 \bar{D}^0 + \text{c.c.})$	DOCUMENT ID	TECN	COMMENT	$\Gamma_2/\Gamma_3$
<b>0.05 ± 0.03</b>	<sup>1</sup> GOLDHABER	77	MRK1 $e^+ e^-$	

$\Gamma(D^*(2007)^0 \bar{D}^*(2007)^0)/\Gamma(D^*(2007)^0 \bar{D}^0 + \text{c.c.})$	DOCUMENT ID	TECN	COMMENT	$\Gamma_4/\Gamma_3$
<b>32.0 ± 12.0</b>	<sup>1</sup> GOLDHABER	77	MRK1 $e^+ e^-$	

<sup>1</sup> Phase-space factor ( $p^3$ ) explicitly removed.

## $\psi(4040)$ REFERENCES

BRANDELIK	78C	PL 76B 361	R. Brandelik <i>et al.</i>	(DASP Collab.)
Also	79C	ZPHY C1 233	R. Brandelik <i>et al.</i>	(DASP Collab.)
FELDMAN	77	PRPL 33C 285	G.J. Feldman, M.L. Perl	(LBL, SLAC)
GOLDHABER	77	PL 69B 503	G. Goldhaber <i>et al.</i>	(Mark I Collab.)

## OTHER RELATED PAPERS

HEIKKILA	84	PR D29 110	K. Heikkila, N.A. Tornqvist, S. Ono	(HELS, AACHT)
ONO	84	ZPHY C26 307	S. Ono	(ORSAY)
SIEGRIST	82	PR D26 969	J.L. Siegrist <i>et al.</i>	(SLAC, LBL)
AUGUSTIN	75	PRL 34 764	J.E. Augustin <i>et al.</i>	(SLAC, LBL)
BACCI	75	PL 58B 481	C. Bacci <i>et al.</i>	(ROMA, FRAS)
BOYARSKI	75B	PRL 34 762	A.M. Boyarski <i>et al.</i>	(SLAC, LBL)
ESPOSITO	75	PL 58B 478	B. Esposito <i>et al.</i>	(FRAS, NAPL, PADO+)

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