

**$\psi(4040)$** 

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

 **$\psi(4040)$  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
$\Gamma_5$ $J/\psi(1S)\text{hadrons}$	
$\Gamma_6$ $\mu^+\mu^-$	

 **$\psi(4040)$  PARTIAL WIDTHS**

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

 **$\psi(4040)$  BRANCHING RATIOS**

$\Gamma(e^+e^-)/\Gamma_{\text{total}}$	$\Gamma_1/\Gamma$		
VALUE (units $10^{-5}$ )	DOCUMENT ID	TECN	COMMENT

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

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

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

$\Gamma(D^*(2007)^0\bar{D}^*(2007)^0)/\Gamma(D^*(2007)^0\bar{D}^0 + \text{c.c.})$	$\Gamma_4/\Gamma_3$		
VALUE	DOCUMENT ID	TECN	COMMENT
<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.)

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## OTHER RELATED PAPERS

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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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