



$$I(J^P) = \frac{1}{2}(1^-)$$

I, J, P need confirmation. Quantum numbers shown are quark-model predictions.

B* MASS

From mass difference below and the average of our B masses $(m_{B^\pm} + m_{B^0})/2$.

VALUE (MeV)	DOCUMENT ID
5325.0 ± 0.6 OUR FIT	

$m_{B^*} - m_B$

VALUE (MeV)	EVT5	DOCUMENT ID	TECN	COMMENT
45.78 ± 0.35 OUR FIT				
45.78 ± 0.35 OUR AVERAGE				
46.2 ± 0.3 ± 0.8		¹ ACKERSTAFF 97M OPAL		$e^+ e^- \rightarrow Z$
45.3 ± 0.35 ± 0.87	4227	¹ BUSKULIC 96D ALEP		$E_{cm}^{ee} = 88-94$ GeV
45.5 ± 0.3 ± 0.8		¹ ABREU 95R DLPH		$E_{cm}^{ee} = 88-94$ GeV
46.3 ± 1.9	1378	¹ ACCIARRI 95B L3		$E_{cm}^{ee} = 88-94$ GeV
46.4 ± 0.3 ± 0.8		² AKERIB 91 CLE2		$e^+ e^- \rightarrow \gamma X$
45.6 ± 0.8		² WU 91 CSB2		$e^+ e^- \rightarrow \gamma X, \gamma \ell X$
45.4 ± 1.0		³ LEE-FRANZINI 90 CSB2		$e^+ e^- \rightarrow \Upsilon(5S)$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
52 ± 2 ± 4	1400	⁴ HAN 85 CUSB		$e^+ e^- \rightarrow \gamma e X$

¹ u, d, s flavor averaged.

² These papers report E_γ in the B^* center of mass. The $m_{B^*} - m_B$ is 0.2 MeV higher.

$E_{cm} = 10.61-10.7$ GeV. Admixture of B^0 and B^+ mesons, but not B_s .

³ LEE-FRANZINI 90 value is for an admixture of B^0 and B^+ . They measure $46.7 \pm 0.4 \pm 0.2$ MeV for an admixture of $B^0, B^+,$ and B_s , and use the shape of the photon line to separate the above value.

⁴ HAN 85 is for $E_{cm} = 10.6-11.2$ GeV, giving an admixture of $B^0, B^+,$ and B_s .

$$|(m_{B^{*+}} - m_{B^+}) - (m_{B^{*0}} - m_{B^0})|$$

VALUE (MeV)	CL%	DOCUMENT ID	TECN	COMMENT
<6	95	ABREU 95R DLPH		$E_{cm}^{ee} = 88-94$ GeV

B* DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad B\gamma$	dominant

B* REFERENCES

ACKERSTAFF	97M	ZPHY C74 413	K. Akerstaff <i>et al.</i>	(OPAL Collab.)
BUSKULIC	96D	ZPHY C69 393	D. Buskulic <i>et al.</i>	(ALEPH Collab.)
ABREU	95R	ZPHY C68 353	P. Abreu <i>et al.</i>	(DELPHI Collab.)
ACCIARRI	95B	PL B345 589	M. Acciari <i>et al.</i>	(L3 Collab.)
AKERIB	91	PRL 67 1692	D.S. Akerib <i>et al.</i>	(CLEO Collab.)
WU	91	PL B273 177	Q.W. Wu <i>et al.</i>	(CUSB II Collab.)
LEE-FRANZINI	90	PRL 65 2947	J. Lee-Franzini <i>et al.</i>	(CUSB II Collab.)
HAN	85	PRL 55 36	K. Han <i>et al.</i>	(COLU, LSU, MPIM, STON)
