B^*

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

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
5324.8±2.1 OUR FIT	

$m_{B^*} - m_B$

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
46.0±0.6 OUR FIT					
46.0±0.6 OUR AVERAGE					
46.4±0.3±0.8		[1] AKERIB	91	CLE2	$e^+e^- \to \gamma X$
45.6+0.8		[1] WU	91	CSB2	$e^+e^- \to \gamma X, \gamma \ell X$
45.4±1.0		[2] LEE-FRANZINI	90	CSB2	$e^+e^- \to \Upsilon(5S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
52.0±2. ±4.	1400	[3] HAN	85	CUSB	$e^+e^- \to \gamma e X$

[1] 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.

[2] 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.

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

B^* REFERENCES

AKERIB	91	PRL 67 1692	+Barish, Cown, Eigen, Stroynowski+ (CLEO Collab.)
WU	91	PL B273 177	+Franzini, Kanekal, Tuts+ (CUSB II Collab.)
LEE-FRANZINI	90	PRL 65 2947	+Heintz, Lovelock, Narain, Schamberger+ (CUSB II Collab.)
HAN	85	PRL 55 36	+Klopfenstein, Mageras+ (COLU, LSU, MPIM, STON)