B_s^*

$I(J^P) = 0(1^-)$

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

B_s^* MASS

From mass difference below and the B_s^0 mass.

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
$5415.4^{+1.8}_{-1.5}$ OUR FIT Error includes scale factor of 2.9.				
5415.8±1.5 OUR AVERAGE Error includes scale factor of 2.6.				
5416.4±0.4±0.5	LOUVOT	09	BELL	$e^+e^- \to \Upsilon(5S)$
5411.7±1.6±0.6	[1] AQUINES	06	CLEO	$e^+e^- \to \Upsilon(5S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
5418 ±1 ±3	DRUTSKOY	07A	BELL	Repl. by LOUVOT 09
5414 ±1 ±3	[2] BONVICINI	06	CLEO	$e^+e^- \to \Upsilon(5S)$

[1] Utilized the beam constrained invariant mass peak positions for B^* and B_s^* to extract the measurement.

[2] Uses 14 candidates consistent with B_s decays into final states with a J/ψ and a $D_s^{(*)-}$.

$m_{B_s^*} - m_{B_s}$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
$48.5^{+1.8}_{-1.5}$ OUR FIT Error includes scale factor of 2.9.				
46.1±1.5 OUR AVERAGE				
45.7±1.7±0.7	[3] AQUINES	06	CLEO	$e^+e^- \to \Upsilon(5S)$
47.0±2.6	[4] LEE-FRANZINI	90	CSB2	$e^+e^- \to \Upsilon(5S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
48 ±1 ±3	[5] BONVICINI	06	CLEO	Repl. by AQUINES 06

[3] Utilized the beam constrained invariant mass peak positions for B^* and B_s^* to extract the measurement.

[4] LEE-FRANZINI 90 measure 46.7 ± 0.4 ± 0.2 MeV for an admixture of B^0, B^+, and B_s. They use the shape of the photon line to separate the above value for B_s.

[5] Uses 14 candidates consistent with B_s decays into final states with a J/ψ and a $D_s^{(*)-}$.

$|(m_{B_s^*} - m_{B_s}) - (m_{B^*} - m_B)|$

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

B_s^* DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$B_s\gamma$	seen

B_s^* REFERENCES

LOUVOT	09	PRL 102 021801	R. Louvot *et al.*	(BELLE Collab.)
DRUTSKOY	07A	PR D76 012002	A. Drutskoy *et al.*	(BELLE Collab.)
AQUINES	06	PRL 96 152001	O. Aquines *et al.*	(CLEO Collab.)
BONVICINI	06	PRL 96 022002	G. Bonvicini *et al.*	(CLEO Collab.)
ABREU	95R	ZPHY C68 353	P. Abreu *et al.*	(DELPHI Collab.)
LEE-FRANZINI	90	PRL 65 2947	J. Lee-Franzini *et al.*	(CUSB II Collab.)