$B_J^*(5732)$ or B^{**}

$I(J^P) = ?(?^?)$
I, J, P need confirmation.

OMITTED FROM SUMMARY TABLE

Signal can be interpreted as stemming from several narrow and broad resonances. Needs confirmation.

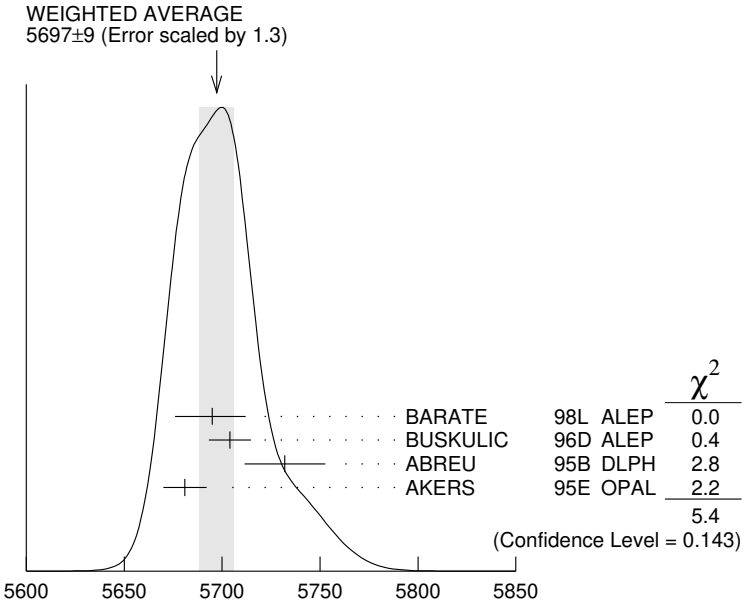
$B_J^*(5732)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
5697± 9 OUR AVERAGE	Error includes scale factor of 1.3. See the ideogram below.				
5695^{+17}_{-19}		[1] BARATE	98L	ALEP	$e^+e^- \to Z$
5704± 4±10	1944	[2] BUSKULIC	96D	ALEP	E^{ee}_{cm}= 88–94 GeV
5732± 5±20	2157	ABREU	95B	DLPH	E^{ee}_{cm}= 88–94 GeV
5681±11	1738	AKERS	95E	OPAL	E^{ee}_{cm}= 88–94 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
5713± 2		[3] ACCIARRI	99N	L3	$e^+e^- \to Z$

[1] BARATE 98L uses fully reconstructed B mesons to search for B^{**} production in the $B\pi^\pm$ system. In the framework of heavy quark symmetry (HQS), they also measured the mass of B_2^* to be $5739^{+8}_{-11}{}^{+6}_{-4}$ MeV/c^2 and the relative production rate of B($b \to B_2^* \to B^{(*)}\pi$)/B($b \to B_{u,d}$) = $(31 \pm 9^{+6}_{-5})$%.

[2] Using $m_{B\pi} - m_B = 424 \pm 4 \pm 10$ MeV.

[3] ACCIARRI 99N uses inclusive reconstructed B mesons to search for B^{**} production in the $B^{(*)}\pi^\pm$ system. In the framework of HQET, they measured the mass of B_1^* and B_2^* to be $5670 \pm 10 \pm 13$ MeV and $5768 \pm 5 \pm 6$ with the B($b \to B^{**}$)= $(32 \pm 3 \pm 6) \times 10^{-2}$. They also reported the evidence for the existence of an excited B-meson state or mixture of states in the region 5.9–6.0 GeV.



$B^*_J(5732)$ mass (MeV)

$B^*_J(5732)$ WIDTH

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
128±18 OUR AVERAGE					
145±28	2157	ABREU	95B	DLPH	E^{ee}_{cm}= 88–94 GeV
116±24	1738	AKERS	95E	OPAL	E^{ee}_{cm}= 88–94 GeV

$B^*_J(5732)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$B^*\pi + B\pi$	dominant

$B^*_J(5732)$ REFERENCES

ACCIARRI	99N	PL B465 323	M. Acciarri *et al.*	(L3 Collab.)
BARATE	98L	PL B425 215	R. Barate *et al.*	(ALEPH Collab.)
BUSKULIC	96D	ZPHY C69 393	D. Buskulic *et al.*	(ALEPH Collab.)
ABREU	95B	PL B345 598	P. Abreu *et al.*	(DELPHI Collab.)
AKERS	95E	ZPHY C66 19	R. Akers *et al.*	(OPAL Collab.)