$X(4055)^{\pm}$

$I^G(J^{PC}) = 1^+(?^{?-})$
I, G, C need confirmation.

OMITTED FROM SUMMARY TABLE

Properties incompatible with a $q\overline{q}$ structure (exotic state). See the review on non-$q\overline{q}$ states.

Needs confirmation. Seen by WANG 15A in the $\psi(2S)\pi^+$ invariant mass distribution in $\psi(4360) \rightarrow \psi(2S)\pi^+\pi^-$ decay.

$X(4055)^{\pm}$ MASS

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
4054 ±3 ±1	[1] WANG	15A	BELL	10.58 $e^+e^- \rightarrow \gamma\pi^+\pi^-\psi(2S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
4032.1±2.4	[2] ABLIKIM	17V	BES3	$e^+e^- \rightarrow \pi^+\pi^-\psi(2S)$

[1] Statistical significance of 3.5 σ.
[2] Statistical error only, with significance of 9.2 σ. From an unbinned maximum likelihood fit of the $\pi^+\pi^-\psi(2S)$ Dalitz plot from data collected at $\sqrt{s} = 4.416$ GeV for a $J^C = 1^+$ state. The fit does not match the detailed structure of the data, having a C.L. of only 8%.

$X(4055)^{\pm}$ WIDTH

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
45 ±11 ±6	[1] WANG	15A	BELL	10.58 $e^+e^- \rightarrow \gamma\pi^+\pi^-\psi(2S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
26.1± 5.3	[2] ABLIKIM	17V	BES3	$e^+e^- \rightarrow \pi^+\pi^-\psi(2S)$

[1] Statistical significance of 3.5 σ.
[2] Statistical error only, with significance of 9.2 σ. From an unbinned maximum likelihood fit of the $\pi^+\pi^-\psi(2S)$ Dalitz plot from data collected at $\sqrt{s} = 4.416$ GeV for a $J^C = 1^+$ state. The fit does not match the detailed structure of the data, having a C.L. of only 8%.

$X(4055)^{\pm}$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\pi^+\psi(2S)$	seen

$X(4055)^{\pm}$ BRANCHING RATIOS

$\Gamma(\pi^+\psi(2S))/\Gamma_{total}$ Γ_1/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
seen	[1] WANG	15A	BELL	10.58 $e^+e^- \rightarrow \gamma\pi^+\pi^-\psi(2S)$

[1] Statistical significance of 3.5 σ.

$X(4055)^{\pm}$ REFERENCES

ABLIKIM	17V	PR D96 032004	M. Ablikim *et al.*	(BES III Collab.)
WANG	15A	PR D91 112007	X.L. Wang *et al.*	(BELLE Collab.)