$\Sigma_c(2800)$

$I(J^P) = 1(?^?)$ Status: ***

Seen in the $\Lambda_c^+\pi^+$, $\Lambda_c^+\pi^0$, and $\Lambda_c^+\pi^-$ mass spectra.

$\Sigma_c(2800)$ MASSES

The charged ++ and + masses are obtained from the mass-difference measurements that follow. The neutral mass is dominated by the mass-difference measurement, but is pulled up somewhat by the less well-determined but considerably higher direct-mass measurement. It is possible, in fact, that AUBERT 08BN is seeing a different Σ_c.

$\Sigma_c(2800)^{++}$ MASS

VALUE (MeV)	*DOCUMENT ID*
2801^{+4}_{-6} OUR FIT	

$\Sigma_c(2800)^{+}$ MASS

VALUE (MeV)	*DOCUMENT ID*
2792^{+14}_{-5} OUR FIT	

$\Sigma_c(2800)^{0}$ MASS

VALUE (MeV)	*DOCUMENT ID*	*TECN*	*COMMENT*
2806^{+5}_{-7} OUR FIT Error includes scale factor of 1.3.			
$2846\pm8\pm10$	AUBERT	08BN BABR	$B^- \to \overline{p}\Lambda_c^+\pi^-$

$\Sigma_c(2800)$ MASS DIFFERENCES

$m_{\Sigma_c(2800)^{++}} - m_{\Lambda_c^+}$

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$514\ ^{+4}_{-6}$ OUR FIT					
$514.5^{+3.4+2.8}_{-3.1-4.9}$	$2810^{+1090}_{-\ 775}$	MIZUK	05	BELL	$e^+e^- \approx \Upsilon(4S)$

$m_{\Sigma_c(2800)^{+}} - m_{\Lambda_c^+}$

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$505\ ^{+14}_{-\ 5}$ OUR FIT					
$505.4^{+\ 5.8+12.4}_{-\ 4.6-\ 2.0}$	1540^{+1750}_{-1050}	MIZUK	05	BELL	$e^+e^- \approx \Upsilon(4S)$

$m_{\Sigma_c(2800)^{0}} - m_{\Lambda_c^+}$

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$519\ ^{+5}_{-7}$ OUR FIT Error includes scale factor of 1.3.					
$515.4^{+3.2+2.1}_{-3.1-6.0}$	$2240^{+1300}_{-\ 740}$	MIZUK	05	BELL	$e^+e^- \approx \Upsilon(4S)$

$\Sigma_c(2800)$ WIDTHS

$\Sigma_c(2800)^{++}$ WIDTH

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$\mathbf{75^{+18+12}_{-13-11}}$	$2810^{+1090}_{-\ 775}$	MIZUK	05	BELL	$e^+e^- \approx \Upsilon(4S)$

$\Sigma_c(2800)^{+}$ WIDTH

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$\mathbf{62^{+37+52}_{-23-38}}$	1540^{+1750}_{-1050}	MIZUK	05	BELL	$e^+e^- \approx \Upsilon(4S)$

$\Sigma_c(2800)^{0}$ WIDTH

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
72^{+22}_{-15} OUR AVERAGE					
$86^{+33}_{-22}\pm12$		AUBERT	08BN	BABR	$B^- \to \overline{p}\Lambda_c^+\pi^-$
61^{+18+22}_{-13-13}	$2240^{+1300}_{-\ 740}$	MIZUK	05	BELL	$e^+e^- \approx \Upsilon(4S)$

$\Sigma_c(2800)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\Lambda_c^+\pi$	seen

$\Sigma_c(2800)$ REFERENCES

AUBERT	08BN	PR D78 112003	B. Aubert *et al.*	(BABAR Collab.)
MIZUK	05	PRL 94 122002	R. Mizuk *et al.*	(BELLE Collab.)