$\Sigma(1670)$ D_{13}, $\Sigma(1750)$ S_{11}, $\Sigma(1775)$ D_{15}, $\Sigma(1915)$ F_{15}, $\Sigma(1940)$ D_{13}, $\Sigma(2030)$ F_{17}, $\Sigma(2250)$

The Σ resonances listed above are omitted from this Booklet but not from the Summary Table in the full *Review*.

Ξ BARYONS
$(S=-2, I=1/2)$

$\Xi^0 = uss, \quad \Xi^- = dss$

Ξ^0

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

P is not yet measured; + is the quark model prediction.

Mass $m = 1314.9 \pm 0.6$ MeV
$m_{\Xi^-} - m_{\Xi^0} = 6.4 \pm 0.6$ MeV
Mean life $\tau = (2.90 \pm 0.09) \times 10^{-10}$ s
$c\tau = 8.71$ cm
Magnetic moment $\mu = -1.250 \pm 0.014\ \mu_N$

Decay parameters

$\Lambda\pi^0$	$\alpha = -0.411 \pm 0.022$ (S = 2.1)
"	$\phi = (21 \pm 12)^\circ$
"	$\gamma = 0.85$ [g]
"	$\Delta = (218^{+12}_{-19})^\circ$ [g]
$\Lambda\gamma$	$\alpha = 0.4 \pm 0.4$
$\Sigma^0\gamma$	$\alpha = 0.20 \pm 0.32$

Ξ^0 DECAY MODES		Fraction (Γ_i/Γ)	Confidence level	p (MeV/c)
$\Lambda\pi^0$		(99.54 ± 0.05) %		135
$\Lambda\gamma$		$(1.06\pm0.16) \times 10^{-3}$		184
$\Sigma^0\gamma$		$(3.5\ \pm0.4\ ) \times 10^{-3}$		117
$\Sigma^+ e^- \overline{\nu}_e$		$< 1.1 \times 10^{-3}$	90%	120
$\Sigma^+ \mu^- \overline{\nu}_\mu$		$< 1.1 \times 10^{-3}$	90%	64
$\Delta S = \Delta Q$ (SQ) violating modes or $\Delta S = 2$ forbidden ($S2$) modes				
$\Sigma^- e^+ \nu_e$	SQ	$< 9 \times 10^{-4}$	90%	112
$\Sigma^- \mu^+ \nu_\mu$	SQ	$< 9 \times 10^{-4}$	90%	49
$p\pi^-$	$S2$	$< 4 \times 10^{-5}$	90%	299
$p e^- \overline{\nu}_e$	$S2$	$< 1.3 \times 10^{-3}$		323
$p \mu^- \overline{\nu}_\mu$	$S2$	$< 1.3 \times 10^{-3}$		309