$\Upsilon(11020)$

$I^G(J^{PC}) = ?^?(1^{--})$

Mass $m = 11.019 \pm 0.008$ GeV
Full width $\Gamma = 79 \pm 16$ MeV
$\Gamma_{ee} = 0.130 \pm 0.030$ keV

$\Upsilon(11020)$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
e^+e^-	$(1.6\pm0.5)\times10^{-6}$	5509

NOTES

In this Summary Table:

When a quantity has "(S = ...)" to its right, the error on the quantity has been enlarged by the "scale factor" S, defined as $S = \sqrt{\chi^2/(N-1)}$, where N is the number of measurements used in calculating the quantity.
We do this when $S > 1$, which often indicates that the measurements are inconsistent. When $S > 1.25$, we also show in the Full Listings an ideogram of the measurements. For more about S, see the Introduction.

A decay momentum p is given for each decay mode. For a 2-body decay, p is the momentum of each decay product in the rest frame of the decaying particle. For a 3-or-more-body decay, p is the largest momentum any of the products can have in this frame.

[*a*] The $\pi^\pm$ mass has increased by three (old) standard deviations since our 1992 edition, and the π^0 mass, which is determined using the mass difference $(m_{\pi^\pm} - m_{\pi^0})$, has increased accordingly. See the "Note on the Charged Pion Mass" in the $\pi^\pm$ Full Listings in Physical Review **D50** 1173 (1994) for a discussion.

[*b*] See the "Note on $\pi^\pm \rightarrow \ell^\pm\nu\gamma$ and $K^\pm \rightarrow \ell^\pm\nu\gamma$ Form Factors" in the $\pi^\pm$ Full Listings in Physical Review **D50** 1173 (1994) for definitions and details.

[*c*] Measurements of $\Gamma(e^+\nu_e)/\Gamma(\mu^+\nu_\mu)$ always include decays with γ's, and measurements of $\Gamma(e^+\nu_e\gamma)$ and $\Gamma(\mu^+\nu_\mu\gamma)$ never include low-energy γ's. Therefore, since no clean separation is possible, we consider the modes with γ's to be subreactions of the modes without them, and let $[\Gamma(e^+\nu_e) + \Gamma(\mu^+\nu_\mu)]/\Gamma_{\rm total} = 100\%$.

[*d*] See the $\pi^\pm$ Full Listings in Physical Review **D50** 1173 (1994) for the energy limits used in this measurement; low-energy γ's are not included.

[*e*] Derived from an analysis of neutrino-oscillation experiments.

[*f*] Astrophysical and cosmological arguments give limits of order 10^{-13}; see the π^0 Full Listings in Physical Review **D50** 1173 (1994).