$b\overline{b}$ MESONS

$\Upsilon(1S)$ or $\Upsilon(9460)$

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

Mass $m = 9460.37 \pm 0.21$ MeV (S = 2.7)
Full width $\Gamma = 52.5 \pm 1.8$ keV
$\Gamma_{ee} = 1.32 \pm 0.03$ keV

$\Upsilon(1S)$ DECAY MODES	Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)
$\tau^+\tau^-$	(2.97 ± 0.35) %		4384
e^+e^-	(2.52 ± 0.17) %		4730
$\mu^+\mu^-$	(2.48 ± 0.07) %	S=1.1	4729
Hadronic decays			
$J/\psi(1S)$ anything	$(1.1\ \pm0.4\ )\times10^{-3}$		4223
$\rho\pi$	$< 2 \times10^{-4}$	CL=90%	4698
$\pi^+\pi^-$	$< 5 \times10^{-4}$	CL=90%	4728
K^+K^-	$< 5 \times10^{-4}$	CL=90%	4704
$p\overline{p}$	$< 9 \times10^{-4}$	CL=90%	4636
Radiative decays			
$\gamma 2h^+2h^-$	$(7.0\ \pm1.5\ )\times10^{-4}$		4720
$\gamma 3h^+3h^-$	$(5.4\ \pm2.0\ )\times10^{-4}$		4703
$\gamma 4h^+4h^-$	$(7.4\ \pm3.5\ )\times10^{-4}$		4679
$\gamma\pi^+\pi^-K^+K^-$	$(2.9\ \pm0.9\ )\times10^{-4}$		4686
$\gamma 2\pi^+2\pi^-$	$(2.5\ \pm0.9\ )\times10^{-4}$		4720
$\gamma 3\pi^+3\pi^-$	$(2.5\ \pm1.2\ )\times10^{-4}$		4703
$\gamma 2\pi^+2\pi^-K^+K^-$	$(2.4\ \pm1.2\ )\times10^{-4}$		4658
$\gamma\pi^+\pi^-p\overline{p}$	$(1.5\ \pm0.6\ )\times10^{-4}$		4604
$\gamma 2\pi^+2\pi^-p\overline{p}$	$(4\ \pm6\ )\times10^{-5}$		4563
$\gamma 2K^+2K^-$	$(2.0\ \pm2.0\ )\times10^{-5}$		4601
$\gamma\eta'(958)$	$< 1.3 \times10^{-3}$	CL=90%	4682
$\gamma\eta$	$< 3.5 \times10^{-4}$	CL=90%	4714
$\gamma f_2'(1525)$	$< 1.4 \times10^{-4}$	CL=90%	4607
$\gamma f_2(1270)$	$< 1.3 \times10^{-4}$	CL=90%	4644
$\gamma\eta(1440)$	$< 8.2 \times10^{-5}$	CL=90%	4624
$\gamma f_J(1710) \to \gamma K\overline{K}$	$< 2.6 \times10^{-4}$	CL=90%	4576
$\gamma f_4(2220) \to \gamma K^+K^-$	$< 1.5 \times10^{-5}$	CL=90%	4469