**Particles with di-muon decay**

**Bosons**

| Particle | Mass (GeV) | Decay Fraction (%) | Comments |
|---|---|---|---|
| Z | 91.2 | 3.366 | |

**Mesons**

| Particle | Mass (GeV) | Decay Fraction (%) | Quark Content | Comments |
|---|---|---|---|---|
| η | 0.55 | 5.8 × 10−6 | $\frac{u\bar{u}+d\bar{d}-2s\bar{s}}{\sqrt{6}}$ | Discovered in 1961 at the Lawrence Berkeley National Laboratory. |
| ρ(770) | 0.775 | 4.55 × 10−5 | $\frac{u\bar{u}-d\bar{d}}{\sqrt{2}}$ | |
| ω(782) | 0.782 | 9.0 × 10−5 | $\frac{u\bar{u}+d\bar{d}}{\sqrt{2}}$ | |
| $K^0$ | 0.50 | 9.0 × 10−9 | $d\bar{s}$ | |
| $D^0$ | 1.86 | 6.2 × 10−9 | $c\bar{u}$ | |
| ϕ(1020) | 1.02 | 2.87 × 10−4 | $s\bar{s}$ | |
| $B^0$ | 5.28 | 1.8 × 10−10 | $d\bar{b}$ | |
| $B^0_S$ | 5.37 | 2.9 × 10−9 | $s\bar{b}$ | |
| J/ψ(1S) | 3.01 | 5.961 | $c\bar{c}$ | Discovered simultaneously by two laboratories in 1974, at Stanford Linear Accelerator it was named ψ, and at Brookhaven National Laboratory it was named J, a character that resembles the Chinese character for the name of its discoverer. Hence the combined name J/ψ. |
| ψ(2S) | 3.69 | 7.9 × 10-3 | $c\bar{c}$ | |
| ψ(4160) | 4.19 | Seen | $c\bar{c}$ | |
| $\eta^b$(1S) | 9.40 | 9 × 10-3 | $b\bar{b}$ | |
| Υ(1S) | 9.46 | 2.48 | $b\bar{b}$ | Discovered at Fermilab in 1977, it was the first particle discovered that contained a bottom quark. |
| Υ(2S) | 10.02 | 1.93 | $b\bar{b}$ | |
| Υ(3S) | 10.36 | 2.18 | $b\bar{b}$ | |