

$\Omega_c(2770)^0$

$$I(J^P) = 0(\frac{3}{2}^+) \text{ Status: } ***$$

The natural assignment is that this goes with the $\Sigma_c(2520)$ and $\Xi_c(2645)$ to complete the lowest mass $J^P = \frac{3}{2}^+$ SU(3) sextet, part of the SU(4) 20-plet that includes the $\Delta(1232)$. But J and P have not been measured.

$\Omega_c(2770)^0$ MASS

The mass is obtained from the mass-difference measurement that follows.

| | |
|-----------------------------|-------------------------------------|
| <u>VALUE (MeV)</u> | <u>DOCUMENT ID</u> |
| 2765.9 ± 2.0 OUR FIT | Error includes scale factor of 1.2. |

$\Omega_c(2770)^0 - \Omega_c^0$ MASS DIFFERENCE

| <u>VALUE (MeV)</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|-------------|--------------------|-------------|---|
| 70.7^{+0.8}_{-0.9} OUR FIT | | | | |
| 70.7^{+0.8}_{-1.0} OUR AVERAGE | | | | |
| 70.7 ± 0.9 ^{+0.1} _{-0.9} | 54 ± 9 | SOLOVIEVA | 09 BELLE | $\Omega_c^0 \gamma$ in $e^+ e^- \rightarrow \Upsilon(4S)$ |
| 70.8 ± 1.0 ± 1.1 | 105 ± 22 | AUBERT,BE | 06I BABR | $e^+ e^- \approx \Upsilon(4S)$ |

$\Omega_c(2770)^0$ DECAY MODES

The $\Omega_c(2770)^0 - \Omega_c^0$ mass difference is too small for any strong decay to occur.

| Mode | Fraction (Γ_i/Γ) |
|------------------------------------|--------------------------------|
| $\Gamma_1 \quad \Omega_c^0 \gamma$ | presumably 100% |

$\Omega_c(2770)^0$ REFERENCES

| | | | | |
|-----------|-----|---------------|----------------------------|-----------------|
| SOLOVIEVA | 09 | PL B672 1 | E. Solovieva <i>et al.</i> | (BELLE Collab.) |
| AUBERT,BE | 06I | PRL 97 232001 | B. Aubert <i>et al.</i> | (BABAR Collab.) |