

$\rho(1570)$

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

OMITTED FROM SUMMARY TABLE

May be an OZI-violating decay mode of $\rho(1700)$. See our mini-review under the $\rho(1700)$.

$\rho(1570)$ MASS

| <u>VALUE (MeV)</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|--------------------|-------------|-----------------------|-------------|---|
| 1570±36±62 | 54 | ¹ AUBERT | 08S BABR | 10.6 $e^+e^- \rightarrow \phi\pi^0\gamma$ |
| 1480±40 | | ² BITYUKOV | 87 SPEC | 32.5 $\pi^-p \rightarrow \phi\pi^0n$ |

• • • We do not use the following data for averages, fits, limits, etc. • • •

¹ From the fit with two resonances.
² Systematic errors not estimated.

$\rho(1570)$ WIDTH

| <u>VALUE (MeV)</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|--------------------|-------------|-----------------------|-------------|---|
| 144±75±43 | 54 | ³ AUBERT | 08S BABR | 10.6 $e^+e^- \rightarrow \phi\pi^0\gamma$ |
| 130±60 | | ⁴ BITYUKOV | 87 SPEC | 32.5 $\pi^-p \rightarrow \phi\pi^0n$ |

³ From the fit with two resonances.
⁴ Systematic errors not estimated.

$\rho(1570)$ DECAY MODES

| Mode | Fraction (Γ_i/Γ) |
|------------------------|--------------------------------|
| Γ_1 e^+e^- | |
| Γ_2 $\phi\pi$ | not seen |
| Γ_3 $\omega\pi$ | |

$\rho(1570)$ $\Gamma(i)\Gamma(e^+e^-)/\Gamma(\text{total})$

| <u>VALUE (eV)</u> | <u>CL%</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | $\Gamma_2\Gamma_1/\Gamma$ |
|--------------------|------------|-------------|------------------------|-------------|---|---------------------------|
| 3.5±0.9±0.3 | | 54 | ⁵ AUBERT | 08S BABR | 10.6 $e^+e^- \rightarrow \phi\pi^0\gamma$ | |
| <70 | 90 | | ⁶ AULCHENKO | 87B ND | $e^+e^- \rightarrow K_S^0 K_L^0 \pi^0$ | |

⁵ From the fit with two resonances.
⁶ Using mass and width of BITYUKOV 87.

$\rho(1570)$ BRANCHING RATIOS

$\Gamma(\phi\pi)/\Gamma_{\text{total}}$ Γ_2/Γ

| VALUE | DOCUMENT ID | TECN | COMMENT |
|-----------------|-------------|----------|--|
| not seen | ABELE | 97H CBAR | $\bar{p}p \rightarrow K_L^0 K_S^0 \pi^0 \pi^0$ |

• • • We do not use the following data for averages, fits, limits, etc. • • •

<0.01 ⁷ DONNACHIE 91 RVUE

⁷ Using data from BISELLO 91B, DOLINSKY 86, and ALBRECHT 87L.

$\Gamma(\phi\pi)/\Gamma(\omega\pi)$ Γ_2/Γ_3

| VALUE | CL% | DOCUMENT ID | TECN | COMMENT |
|-------|-----|-------------|------|---|
| >0.5 | 95 | BITYUKOV 87 | SPEC | $32.5 \pi^- p \rightarrow \phi \pi^0 n$ |

• • • We do not use the following data for averages, fits, limits, etc. • • •

>0.5 95 BITYUKOV 87 SPEC $32.5 \pi^- p \rightarrow \phi \pi^0 n$

$\rho(1570)$ REFERENCES

| | | | | |
|-----------|-----|-------------------------------|------------------------------|--------------------------|
| AUBERT | 08S | PR D77 092002 | B. Aubert <i>et al.</i> | (BABAR Collab.) |
| ABELE | 97H | PL B415 280 | A. Abele <i>et al.</i> | (Crystal Barrel Collab.) |
| BISELLO | 91B | NPBPS B21 111 | D. Bisello | (DM2 Collab.) |
| DONNACHIE | 91 | ZPHY C51 689 | A. Donnachie, A.B. Clegg | (MCHS, LANC) |
| ALBRECHT | 87L | PL B185 223 | H. Albrecht <i>et al.</i> | (ARGUS Collab.) |
| AULCHENKO | 87B | JETPL 45 145 | V.M. Aulchenko <i>et al.</i> | (NOVO) |
| | | Translated from ZETFP 45 118. | | |
| BITYUKOV | 87 | PL B188 383 | S.I. Bityukov <i>et al.</i> | (SERP) |
| DOLINSKY | 86 | PL B174 453 | S.I. Dolinsky <i>et al.</i> | (NOVO) |