

$f_2(2340)$

$$I^G(J^{PC}) = 0^+(2^{++})$$

$f_2(2340)$ MASS

| VALUE (MeV) | EVTS | DOCUMENT ID | TECN | COMMENT |
|---|------|----------------------|----------|--|
| 2345⁺⁵⁰₋₄₀ OUR AVERAGE | | | | |
| 2362 ⁺³¹⁺¹⁴⁰ ₋₃₀₋₆₃ | 5.5k | ¹ ABLIKIM | 13N BES3 | $e^+e^- \rightarrow J/\psi \rightarrow \gamma\eta\eta$ |
| 2339 \pm 55 | | ² ETKIN | 88 MPS | 22 $\pi^-p \rightarrow \phi\phi n$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 2350 \pm 7 | 80k | ³ UMAN | 06 E835 | 5.2 $\bar{p}p \rightarrow \eta\eta\pi^0$ |
| 2392 \pm 10 | | BOOTH | 86 OMEG | 85 $\pi^-Be \rightarrow 2\phi Be$ |
| 2360 \pm 20 | | LINDENBAUM | 84 RVUE | |

¹ From partial wave analysis including all possible combinations of 0^{++} , 2^{++} , and 4^{++} resonances.

² Includes data of ETKIN 85. The percentage of the resonance going into $\phi\phi$, $2^{++} S_2$, D_2 , and D_0 is 37 ± 19 , 4^{+12}_{-4} , and 59^{+21}_{-19} , respectively.

³ Statistical error only.

$f_2(2340)$ WIDTH

| VALUE (MeV) | EVTS | DOCUMENT ID | TECN | COMMENT |
|---|------|----------------------|----------|--|
| 322⁺⁷⁰₋₆₀ OUR AVERAGE | | | | |
| 334 ⁺⁶²⁺¹⁶⁵ ₋₅₄₋₁₀₀ | 5.5k | ⁴ ABLIKIM | 13N BES3 | $e^+e^- \rightarrow J/\psi \rightarrow \gamma\eta\eta$ |
| 319 ⁺⁸¹ ₋₆₉ | | ⁵ ETKIN | 88 MPS | 22 $\pi^-p \rightarrow \phi\phi n$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 218 \pm 16 | 80k | ⁶ UMAN | 06 E835 | 5.2 $\bar{p}p \rightarrow \eta\eta\pi^0$ |
| 198 \pm 50 | | BOOTH | 86 OMEG | 85 $\pi^-Be \rightarrow 2\phi Be$ |
| 150 ⁺¹⁵⁰ ₋₅₀ | | LINDENBAUM | 84 RVUE | |

⁴ From partial wave analysis including all possible combinations of 0^{++} , 2^{++} , and 4^{++} resonances.

⁵ Includes data of ETKIN 85.

⁶ Statistical error only.

$f_2(2340)$ DECAY MODES

| Mode | Fraction (Γ_i/Γ) |
|-----------------------|--------------------------------|
| Γ_1 $\phi\phi$ | seen |
| Γ_2 $\eta\eta$ | seen |

$f_2(2340)$ BRANCHING RATIOS

| $\Gamma(\eta\eta)/\Gamma_{\text{total}}$ | | | | Γ_2/Γ |
|--|-------------|------|---------|--|
| VALUE | DOCUMENT ID | TECN | COMMENT | |
| seen | UMAN | 06 | E835 | $5.2 \bar{p}p \rightarrow \eta\eta\pi^0$ |

$f_2(2340)$ REFERENCES

| | | | | |
|------------|-----|---------------|----------------------------|--------------------|
| ABLIKIM | 13N | PR D87 092009 | Ablikim M. <i>et al.</i> | (BES III Collab.) |
| UMAN | 06 | PR D73 052009 | I. Uman <i>et al.</i> | (FNAL E835) |
| ETKIN | 88 | PL B201 568 | A. Etkin <i>et al.</i> | (BNL, CUNY) |
| BOOTH | 86 | NP B273 677 | P.S.L. Booth <i>et al.</i> | (LIVP, GLAS, CERN) |
| ETKIN | 85 | PL 165B 217 | A. Etkin <i>et al.</i> | (BNL, CUNY) |
| LINDENBAUM | 84 | CNPP 13 285 | S.J. Lindenbaum | (CUNY) |