**$f_1(1510)$**  

\[ i^G J^P C = 0^+(1++) \]

**OMITTED FROM SUMMARY TABLE**  
See the minireview under $\eta(1405)$.

---

**$f_1(1510)$ MASS**

<table>
<thead>
<tr>
<th>VALUE (MeV)</th>
<th>EVTS</th>
<th>DOCUMENT ID</th>
<th>TECN</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1518 \pm 5$ OUR AVERAGE</td>
<td></td>
<td></td>
<td></td>
<td>Error includes scale factor of 1.7. See the ideogram below.</td>
</tr>
<tr>
<td>1530 ± 10</td>
<td></td>
<td>ASTON 88C</td>
<td>LASS</td>
<td>11 $K^- p \rightarrow K^0 \Lambda \pi^+ \pi^-$</td>
</tr>
<tr>
<td>1512 ± 4</td>
<td>600</td>
<td>BIRMAN 88</td>
<td>MPS</td>
<td>8 $\pi^- p \rightarrow K^+ \bar{K}^0 \pi^- n$</td>
</tr>
<tr>
<td>1526 ± 6</td>
<td>271</td>
<td>GAVILLET 82</td>
<td>HBC</td>
<td>4.2 $K^- p \rightarrow \Lambda K K \pi$</td>
</tr>
</tbody>
</table>

\[ \sim 1525 \]

\[ ^1 \text{From partial wave analysis of } K^+ \bar{K}^0 \pi^- \text{ state.} \]

\[ ^2 \text{Not seen by AIHARA 88C in the } K^0 \Lambda K^0 \pi^0 \text{ final state.} \]

---

**$f_1(1510)$ WIDTH**

<table>
<thead>
<tr>
<th>VALUE (MeV)</th>
<th>EVTS</th>
<th>DOCUMENT ID</th>
<th>TECN</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$73 \pm 25$ OUR AVERAGE</td>
<td></td>
<td></td>
<td></td>
<td>Error includes scale factor of 2.5. See the ideogram below.</td>
</tr>
<tr>
<td>100 ± 40</td>
<td></td>
<td>ASTON 88C</td>
<td>LASS</td>
<td>11 $K^- p \rightarrow K^0 \Lambda \pi^+ \pi^-$</td>
</tr>
<tr>
<td>35 ± 15</td>
<td>600</td>
<td>BIRMAN 88</td>
<td>MPS</td>
<td>8 $\pi^- p \rightarrow K^+ \bar{K}^0 \pi^- n$</td>
</tr>
<tr>
<td>107 ± 15</td>
<td>271</td>
<td>GAVILLET 82</td>
<td>HBC</td>
<td>4.2 $K^- p \rightarrow \Lambda K K \pi$</td>
</tr>
</tbody>
</table>

---

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From partial wave analysis of $K^+\bar{K}^0\pi^-$ state.

**WEIGHTED AVERAGE**
73±25 (Error scaled by 2.5)

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$\chi^2$

-50 0 50 100 150 200 250

$f_1(1510)$ width (MeV)

**$f_1(1510)$ DECAY MODES**

<table>
<thead>
<tr>
<th>Mode</th>
<th>Fraction ($\Gamma_i/\Gamma$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\Gamma_1$</td>
<td>$K\bar{K}^*(892)+$ c.c.</td>
</tr>
<tr>
<td>$\Gamma_2$</td>
<td>$\pi^+\pi^-\eta'$</td>
</tr>
</tbody>
</table>

**$f_1(1510)$ BRANCHING RATIOS**

<table>
<thead>
<tr>
<th>$\Gamma(\pi^+\pi^-\eta')/\Gamma_{\text{total}}$</th>
<th>$\Gamma_2/\Gamma$</th>
<th>VALUE</th>
<th>EVTS</th>
<th>DOCUMENT ID</th>
<th>TECN</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>seen</td>
<td></td>
<td></td>
<td>230</td>
<td>ABLIKIM 11C</td>
<td>BES3</td>
<td>$J/\psi \rightarrow \gamma\pi^+\pi^-\eta'$</td>
</tr>
</tbody>
</table>

**$f_1(1510)$ REFERENCES**

| ABLIKIM 11C | PRL 106 072002 | M. Ablikim et al. | (BES III Collab.) |
| BAUER 93B   | PR D48 3976    | D.A. Bauer et al. | (SLAC)            |
| AIHARA 88C  | PR D38 1       | H. Aihara et al.  | (TPC-2γ Collab.) |
| ASTON 88C   | PL B201 573    | D. Aston et al.   | (SLAC, NAGO, CINC, INUS) JP |
| BIRMAN 88   | PRL 61 1557    | A. Birman et al.  | (BNL, FSU, IND, MASD) JP |
| GAVILLET 82 | ZPHY C16 119   | P. Gavillet et al.| (CERN, CDEF, PADO+) |

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