

Double-blind PWA test at Indiana

Test carried out at Indiana by Adam Szczepaniak and Scott Teige - week of August 7, 2000

A double blind partial wave analysis of the $\rho(770)$ final state has been carried out. 103,000 events were generated following a set of amplitudes approximately representing previous observations of this final state. The amplitudes were chosen by S. Teige and the resulting Monte-Carlo data set passed to A. Szczepaniak for analysis. The amplitudes were chosen such that the $a_2(1320)$ and the $a_1(1260)$ dominated the total intensity. The amplitudes of "minor" waves were chosen such that they contributed equally (approximately) to the intensity above $1.7 \text{ GeV} / c^2$. Included in these minor waves was the J^{PC} exotic $\rho(1600)$. Figure 1 shows the generated intensities, the solid circles representing the total intensity, the open triangles the $a_2(1320)$, the open circles the $a_1(1260)$, the filled squares the exotic and the remaining symbols representing the other minor waves.

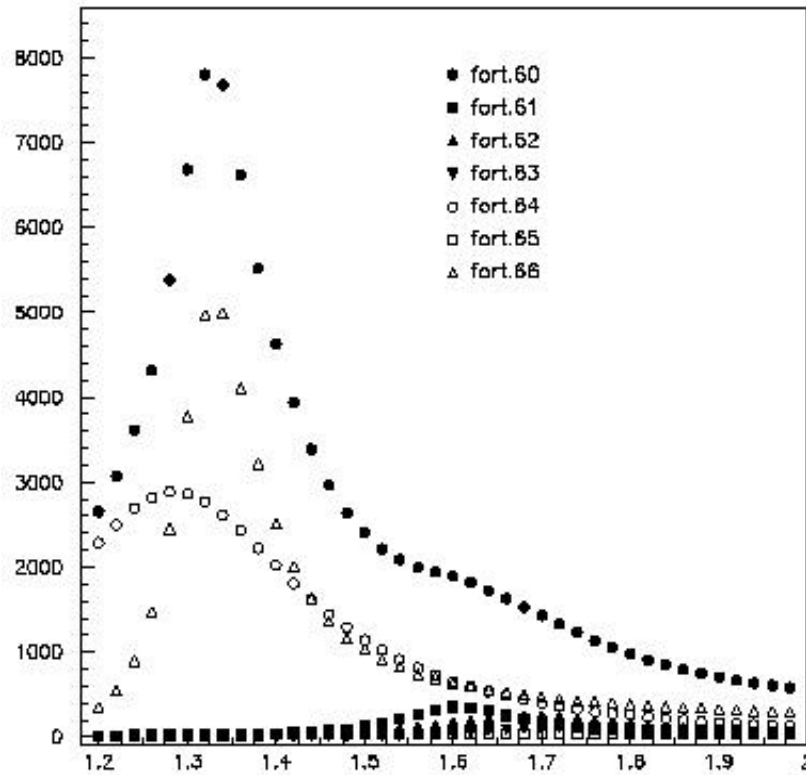


Figure 2 shows the result of the double blind study. The filled circles represent the generated exotic intensity and the open circles with error bars the result of the analysis. The agreement is excellent in this partial wave and in all others. Work continues, the event generator has been "parallelized" to run efficiently on a multi-processor computer farm and is being further generalized to include multiple exchange mechanisms and variable photon polarization. (the creator of these figures apologizes for the lousy labels on axes and in the legend.this is a work in progress)

