

Analysis of $\Upsilon p \rightarrow pK^0_s K^0_s$ from the g12 data set

This note presents the analysis of the reaction $\gamma p \rightarrow K_s K_s p \rightarrow \pi^+ \pi^- \pi^+ \pi^- (p)$ from the CLAS g12 run data. The authors found several peaks in the $K_s K_s$ background-subtracted mass spectrum. They discuss, in particular, a peak found about 1500 MeV. They study two t four-momentum regions and show that the peak is enhanced in the low- t region. They conclude that the production in this mass region is associated with a t -channel mechanism. An spherical harmonics moments **angular** analysis is performed to study the spin-parity structure in this mass region and to estimate the contributions of the $f_2(1525)$ and $f_0(1500)$ to this peak.

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- Committee: C.Salgado, D. Glazier and L. Zana
- Started: October 8, 2015
- First round of comments to authors: November 4, 2015
- Conference call with authors: November 16, 2015
- Answers of authors to first round received: April 15, 2016
- New note version #2: April 15, 2016
- 2nd round of comments to authors: May 16, 2016
- **Status (11/3/16): Waiting on author's response to 2nd round (as in last CLAS Coll meeting). Main author was out of reach for several months. She now started a new job and we were told that she will return to finish the note soon.**

Most Important Points:

- a) A new note was submitted where the moments analysis was changed to an angular analysis (comparing data to pure S and D waves distributions). Due to acceptance and statistics limitations, it is difficult to obtain definitive conclusions on the contributions of the f_2 and f_0 to the observed peak.
- b) The committee indicated a few new analyses: to use a more realistic t -distribution weighting, a different treatment of the background subtraction, make clear in the note the problems on the analysis of the quantum-numbers associated with the peak and future possibilities (in CLAS12). The authors are working in answering those requests.