Second round remarks:

1st Document

Overall, I think this version is much more coherent and improved. I would suggest the approval of the paper after implementation of the following comments (unless it's a pure English language matter for which I think others might know better). I would not fight to death for them being implemented, but I don't see why the authors won't.

Thanks, all the collaborators on this paper appreciate the compliment. We have modified to most of the changes proposed in this document. We have kept our revisions in the colour red to aide the committee in observing the modifications. See below for specifics

1. Abstract. "pi0 is identified ... missing mass of proton". I find this sentence totally unnecessary and a bit in correct. I would have said "using missing mass technique", but it's not quite completely correct since there is also kinematic fitting involved. And "off of the proton" would be the better choice in my non-native speaking opinion. Why not just delete this sentence.

Removed this sentence

2.line 13-16: .. pi0 and eta ... have always been a complentary tool...; Again, it is is "have", could we still follow that with "a tool". Maybe "a complimentary tool" can be changed to "complimentary tools" – I will defer this to the native speakers just in case.

Modified this sentence

3. line 35-36. I would suggest numbers, ... 1—(rho, omega), and the 1+- (b1, h1).

Done

4. line 57-58, "wrong-signature" Regge residues? Forgive my ignorance. But I suppose there will be readers who are equally ignorant and would appreciate a sentence here explaining what is "wrong signature".

Explained more in the text

5. line 59: I feel the first sentence is not needed . Why not remove the first sentence and start with "quite recently" and no point is lost.

Removed

6. line 79: "where t is..." I find it odd that t is explained here. If one feels the need to explain this variable, why wait so late after it has been used about half a dozen times? 7. Maybe I haven't read enough papers, but "451 (or 164) data points dsigma/dt(|t|)s" read strange.

Moved the introduction of the explanation of t to an earlier paragraph as suggested

8. line 198: “E_e+” etc, e+ and e- didn’t’ have correct superscripts. Although I don’t find the equation necessary – that’s just my personal taste.

Removed equation

9. line 219: I would like this sentence to be changed to “uncertainty varies between 9% and .. as a function of energy” and remove the “independent of angle”. There is no need for that, and there is certainly different interpretations of the analysis review results in terms of that point.

Modified as suggested

10. line 261 -263: about the new dips? Didn’t first new dip appear at Fig 4 (c) below 4GeV, instead of “above 4GeV”? Also that dip appears to be closer to 2.5GeV than 3GeV in |t| -- I think the authors can give a better number on that than ~3GeV – that’s up to the authors. Also I’m not sure it’s necessary to call the second new structure to be a dip. It’s more like a plateau. Why not just call it a “possible new structure”.

Modified sentence

2nd Document

Abstract: We took into account some modifications suggested

1st page: Modified slightly different than proposed

2nd page: Modified slightly different than proposed. Removed the single quotes around 'confidence levels'.

Authors Reply to (6): The authors understand how the application of the various kinematic fits can lead to confusion. We addressed this topic in the analysis note (Section 2.3.2 -2.3.6), but felt a brief explanation in response the this question was also warranted.

The 4-C constraint equations uses the mass of pions for the detected charged particles, which were not detected as proton. This constraint is to filter events in which could be present due to double charged pion production by method of negative veto. The minimum missing mass off of the proton this constraint can be would be $2m_{\pi^{\pm}}$. Therefore this fit is independent of the 1-C and 2-C fits because these fits use the mass hypothesis of electron for the detected charged particles which were not the proton.

The 1-C fit was used to constrain the topology $\gamma p \rightarrow p e^{+}e^{-}$ to a missing γ while the 2-C fit was used to constrain the $\gamma p \rightarrow p e^{+}e^{-}$ to a missing γ along with the $M^{2}(e^{+}e^{-}(\gamma))$ to $m^{2}{}_{\pi^{0}}$.

Although these fits appear to be a subset of each other, in the context that they were used they were dependent on each other but not exclusive to each other. Scanning the confidence probability of the 1-C fit constrained the final system to a photon, however this “photon” could have been from anything other than $\pi 0$, including but not limited to, Wide angle Compton scattering (WCS), $\gamma p \rightarrow p\gamma \rightarrow p\, e^{+}e^{-}$, where the hypothesize photon was just excess energy due to detector noise. The 2-C fit was dependent on the quality of the 1-C fit in regards to the purity of fitted missing photon. For events under 3.6 GeV in beam energy, the 2-C cut has little effect, which is expected because this spectrum presented itself almost background free due to the CC and EC trigger constraints. For events above 3.6 GeV in beam energy, the 2-C cut has greater effect, which is expected because this spectrum presented itself with more $\pi^{+}\pi^{-}$ background.

However, when all cuts and kinematic constraints were applied prior to the the 2-C, the 2-C confidence level cut had an effect of decreasing the S/(S+B) from 98.7%—>98.9% for events under 3.6 GeV in beam energy and an effect of decreasing the S/(S+B) from 97.9%—>98.6% for events above 3.6 GeV in beam energy, seen in Fig. 23 in the analysis note.

We modified the text in the paper in attempt to eliminate any further confusion.

3rd page: Most suggested modifications were employed

3rd page: Most suggested modifications were employed. Gave a more detailed description as requested.