Ken's comment's on Mike Dugger's draft analysis note

General Comments.
Everything is here is detail, which as a g8 person I found very interesting. For the reviewer I'd be inclined to remove some of the detail which is already covered in CLAS notes and give summaries, and include CLAS notes as supporting documentation.

I Intro
It should say somewhere that the beam was polarized using the coherent brem technique and that g8 was the 1st experiment at Jlab to use this.

IV “Valid Run Subset ...”
I'd cut this down to a summary paragraph explaining that it's on the basis of no of protons per sector, but takes into account the coherent edge, and whether the runs contain PARA, PERP or AMO data. with a couple of example plots and reference to the CLAS

V “Correction ....”
Should this not be “Momentum and Photon Energy Correction”?
It's seems to be implicit that momentum corrections were also applied.
Again, I suggest leaving most of this as reference to the CLAS note. I suggest keeping Fig12 and Fig 14.

VII “Fourier moment ..”
This is a very nice discussion, but again I suggest a summary and reference to the CLAS note. Ending on the comparison of moment and phi bin methods.

IX I'd summarize and refer to the CLAS note.

Specific Comments

p1, col1
I suggest replacing “the extraction of the Σ observable” “the extraction of the photon beam asymmetry observable Σ”

P1, col 1 (and elsewhere)
I suggest saying “parallel to the horizontal plane of the detector's reference frame”, rather than “parallel to the floor”

P1 col 2. Top should be top.

P1 col 2. Should it not be disentangling instead of unentangling.

Fig16 top is Mass^2, bottom is Mass.

P16 You don't say whether you anything about the background in getting sigma. Do you assume negligible, or assume unpolarized and account for dilution, or measure background sigma and take account of it?

IX Need a summary of the polarization tables and a reference to the CLAS note (going in in a couple of days).

In the intro, it should define the coherent peak and coherent edge (also in the fig caption) and say that there is a high degree (up to 90%) of polarization under the coherent peak.

Here's a rough attempt at a summary to go at the end of the intro paragraph in IX:
“In the ideal situation, for any chosen coherent edge setting the coherent peak would be stable and a single lookup table would be used to relate the degree of polarization to the photon energy. However, in practice, the coherent peak drifts around in time – reflecting variations in beam position and angle, and position dependent variations in the crystal. An example of the variation is shown in Fig 28. The drift of the peak position is handled by having a collection of tables corresponding to the spread in the coherent edge position for each setting. The coherent edge is determined from the tagger E-counter scalers which are read into the data stream at 2s intervals, and the appropriate lookup table is selected on the basis of the current coherent edge position. The process of fitting the coherent bremsstrahlung spectra is described in a separate CLAS note [ref KL to be submitted].”

Fig 28. I have a better version to replace this with. (http://nuclear.gla.ac.uk/~kl/g8b/allperp.gif)

P21(C.)
Statement about the 2.1GeV data needs to be fixed. We need to decide what to do about that.