• Length:

- PRL Limit is 3750 words.
- I calculate current length to be about 4680 words:
 - 3630 words from text (including captions)
 - 970 words from size and number of figures
 - 80 words from size of table
- Also uploaded a version of the paper with some parts highlighted where I think there is most scope for reducing length:
 - Phase monitor details.
 - Theoretical limit on corrected jitter equation.
 - Results with wiggling.
 - Conclusions.
 - (My least preferred option)Orbit closure.
 - (My least preferred option)Correction Range.

• <u>References:</u>

- Still need completing.
- I hate BibTeX/need to sort out the formatting.
- Probably no way to avoid heavily relying on CDR, my thesis.
- For FONT5(a) board could reference one of the ATF papers? But my thesis seems more appropriate as there are some details on PFF firmware etc.

• <u>Title:</u>

- Phil's suggestion was: "Stabilisation of the Arrival Time of a High Energy e- Beam at the 50 fs Level".
- I feel like high energy isn't important, but high bandwidth is a critical part of the PFF system, so have proposed a slightly different title:
 - "High Bandwidth Arrival Time Stabilisation of an Electron Beam at the 50 fs Level"

• <u>Main Text:</u>

- Added more details/comparisons to CLIC.
- Added a paragraph comparing PFF and the FLASH feedback.
- Bit more detail on the design of each hardware component.
- Slightly simplified/shortened optics, orbit closure, R56.
- More detail on correction bandwidth (new figure).
- Improved explanation of why 0.2 degree correction longer than 10 minutes difficult.
- Feel like maybe something more needed to emphasise quality/importance of the results, and the challenges of the system vs. feedbacks elsewhere.

• <u>Table:</u>

• Is new, was one of Phil's suggestions.

• Figures:

- In general, aspect ratio, font sizes to standardise. Legends to think about.
- PFF layout (Fig 1).
 - I've removed the CTF section labels, made small adjustments to make it work better as a single column figure.
 - Still think it looks better across two columns, but that triples the word equivalent (303 words vs. 107 words).

- Also would be nice to have the complete combiner ring on there. But even more difficult single column, and would need to find the source of the layout image.
- Correction Range (Fig 2):
 - Just markers, no linear fit/predicted phase shift.
- Gain Scan (Fig 5):
 - Replaces downstream vs. upstream phase scatter plot.
 - Personally I do quite like the PFF on/off scatter plots as an illustration of what the PFF system is doing, but jitter vs. gain is probably better and difficult to fit in both.
- Frequency of phase errors (Fig 6):
 - Replaces flatness histogram.
 - FFTs of PFF performance at different frequencies.
- Mean phase with wiggling (Fig 9):
 - Maybe wasn't included in last draft I sent, don't remember.