HK Clocks @LPNHE
Status of the GNSS data-taking
And related paper

Claire Dalmazzone 13th March

Description

GNSS data-taking

Status

On the 18th of January, at ~3.30pm, started two simultaneous data-taking:

1. Pps residuals, with GNSS receiver, using Rb 10MHz as external reference

2. Frequency measurement, with frequency counter 2, of 5MHz Rb using 5MHz PHM as external reference, 0.1mHz resolution

Now have ~4M seconds of measurements which is enough for the performance evaluation.

GNSS data-taking

Status

Near future plan:

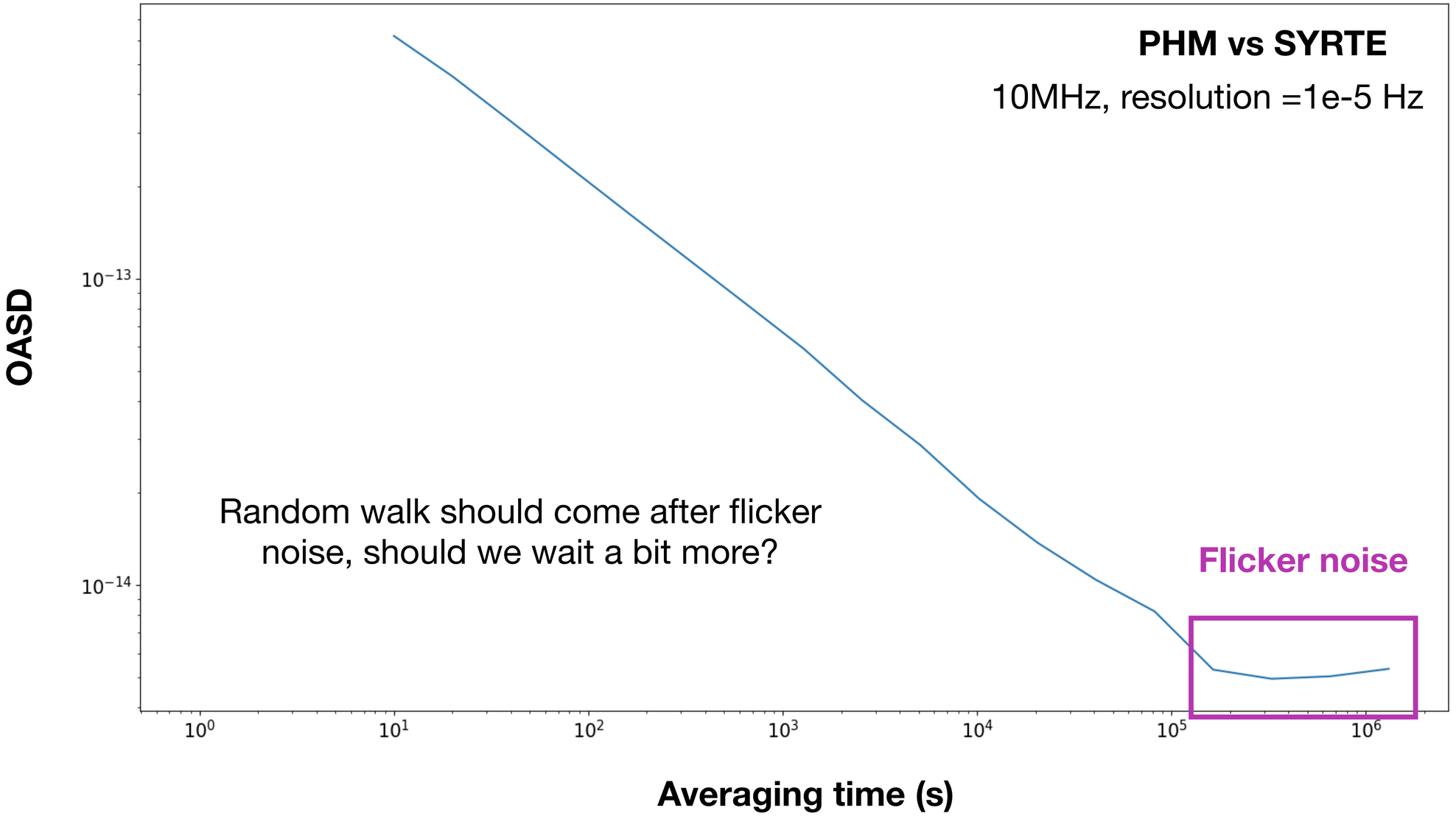
1. Use this results to write a paper on the correction method
2. Play with SF parameter to change the frequency drift: characterisation of the relation SF-drift, optimisation etc.

Future plan:

- Repare the 1pps SYRTE output
- Data-taking with 1pps SYRTE
- Real time correction implementation

PHM vs SYRTE data-taking

Status



Paper on correction

Paper status

Done

- Prepared a scheme of the setup (see next slides).
- Prepared a schematic view of offline vs online correction (see next slides).
- Identified the list of plots: ASD (before and after corrections), pps residuals (before and after corrections), ASD at fixed tau for different correction time window (for optimisation, 3 different values of tau).
- Wrote the method, the results, the discussion section and conclusion sections (with draft versions of the plots): see overleaf with MDPI template.

Paper status

Questions

- Authors?
- Do we want to detail the White rabbit links and GNSS receiver calibration? If yes, maybe better in appendix. Or we could reference the related paper.
- GNSS ASD (or should I just take Lucile’s plot?)
- Should I include the simulation results?
- Some plots could become tables
- Not are about intro, length…
- Maybe I could merge results and discussions?