

DA-WG meeting minutes Svalbard, 27 May 2014

Present:

Pasha Ponomarenko
Evan Thomas
Angeline Burrell
Gareth Chisham
Tomo Hori
Oleg Bergardt
Andrew McDonald
Qinghe Zhang
Jianjun Liu
Judy Stephenson
Takeshi Sakanoi

Apologies:

Jef Spaleta

Introductory Statement (Pasha):

Under the current operation regime (integration time length), the major contribution to the measurement errors is coming from the statistical variability of the signal itself. Therefore, one would not expect to see much difference between different fitting techniques provided they are implemented correctly. The current implementation of the least square fitting in FITACF is far from optimal, so we need to bring it up to the conventional standards. Only after this we can start using it as a reference for other fitting techniques, so at this stage we need to focus mainly on “cleaning” the FITACF.

Required modifications:

1. Weighting – different sets of weighting coefficients for power and phase.
2. Accounting for cross-range interference through proportional weighting of the fitting coefficients rather than simply dropping the data when a certain threshold is exceeded.
3. Correct estimation of the fitting error based on the number of independent measurements (i.e. number of pulses in the sequence rather than the number of ACF lags).

Implementation:

Last autumn, AJ agreed to implement these changes but then moved to Silicon Valley. We need to get in touch with him to find out if he is still keen/has time to go ahead with this. Mike Ruohoniemi will get in touch with AJ to find this out.

Other businesses:

- Validity of the velocity errors
Andrew pointed out that the current values of the velocity errors are unrealistically low. Pasha responded that this is a known issue, and it will be fixed with implementing the proposed changes.
- Test datasets
Oleg said that we need to select datasets for assessing performance of new algorithms. Pasha responded that it was already decided that there should be two kinds of test data, simulated (AJ’s simulator) and real high-quality data. Evan is going to look how to make the simulator available. Oleg is going to select the real datasets.