AMBER

Memo Number: ???

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Subject : **AMBER + FINITO data: a status report**

Presents :

1 – Purpose

2 – Current status

Y: Functionality looks OK and does not perturb the classical data acquisition and reduction scheme. The AMBER data can be reduced with amdlib, normal results are obtained

N: The DITxNDIT is not the correct setup value (AMBER overhead are large). Formula should be: (NDIT+0.5) x (DIT+minDIT)

N: The starting time is missing: "HIERARCH ESO PCR ACQ START". It should be written in the main AMBER table ("HIERARCH ESO PCR ACQ END" already existing). This is critical to ensure that we have an absolute time for each sample, and so correlate with the AMBER data.

3 – Data to be recorded

We don't need IRIS at all. We should focus on the minimum set of data. I propose to separate the two following needs:

1. The data required for the AMBER data reduction, which are: OPDC states and FINITO unwrap phases. **This should have the highest priority**. Ideally, we should find a way to have all these data inside a single table (to reduce the size).
2. The FINITO data that can be used for additional science (see belows)

Ideally, they should be implemented inside two different binary tables. So that we can proceed with implementation of 1 even before the final specification of 2. Indeed, regarding the FINITO data for science, we have the choice between the following options:

A The already processed fringe signal, that are the signals displayed in the RTD. Dark is removed, photometric calibration is done, outputs in phase opposite are substrated: "TIME, FNT1PH, FNT2PH, FNT1CO, FNT2CO, FNT1CMB, FNT2CMB" (**7 parameters**)

B The raw data (dark substrated). However, we don't have access to the calibration-matrix (mandatory to reduce the data). But it should be recoverable from the data themselves: "TIME, FNT1PH, FNT2PH, FNT1CO, FNT2CO, FNTX0, FNTX1, FNTX2, FNTX1A, FNTX1B, FNTX2A, FNTX2B" (**12 parameters**)

In both case, I would like to put the coherence data, because it strongly help the data reduction (determine the limits of each scan). Ideally, all data should be stored into a single binary table to help the data reduction, and to avoid duplicate the time parameter.

4 – File size estimate

According to the current setup, we have: *12 seconds of recording* x *40 parameters* gives *6 Mb* of additional data. So we can expect the files to be:

- Option A: 70s x 10param = 9M
- Option B: 70s x 15param = 13M

5 – Toward final implementation in AMBER

- Data should be recorded for the OBJECT exposures ony, and when FINITO is used only.
- During the first period, we could provide them "on the best effort basis", without putting them in the call-for-proposal.