THR CALBAR software and data products

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THR /RPW TEAM
LESIA-Observatoire de Paris

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TNR-HFR Calibrations Software CALBAR

- **Convert TNR-HFR L1 files to L2 (system level calibration + Antennas)**
- **Written in IDL**
- **wrapper script for execution by ROC framework**

Input datasets

- **ROC-SGSE_L1_RPW-TNR-SURV_V02**
- **ROC-SGSE_L1_RPW-HFR-SURV_V02**
- **SOLO_L2_RPW-TNR-SURV_V01**
- **SOLO_L2R_RPW-HFR-SURV_V02**

- **Calibration parameters and antenna parameters are provided by CDFs files**

CALIBRATION S/W: STATUS AND PLAN

- CALBAR software currently allows to convert TNR and HFR electric data in physical units [V^2/Hz].
- System level calibration parameters implemented in the software (these allow to account for both THR and PA temperatures).
- Correction of the effect of 75 Ohm cable, used during system level calibration measurements, on HFR data.
- wrapper script for execution by ROC framework.
- Successfully tested on ROC-SGSE
- Phase calibration also included

- Calibration software successfully tested with stand-alone parameters (L1 → L2R) measured signals (white noise + cosine oscillations) injected in lab at LESIA.
- Calibration software successfully tested on data from EM during the blank–test Toulouse 2016 (ambient temperature only): amplitudes and frequency of the injected mysterious signals are recovered.

- **Phase Calibration from the blank-test at Toulouse 2016 needs some more verifications**
- **Include in the CALBAR the conversion from [V^2/Hz] to [W/m^2Hz]**
- **Produce CDF file with the parameters of the Antennas**

- **PFM - SCM data calibration with TNR-HFR not yet implemented in the CALBAR (will be done for June 2019)**
  - **Discussions started with the SCM team to include the SCM transfer function in the CALBAR**