SCM ROC Calibration Software
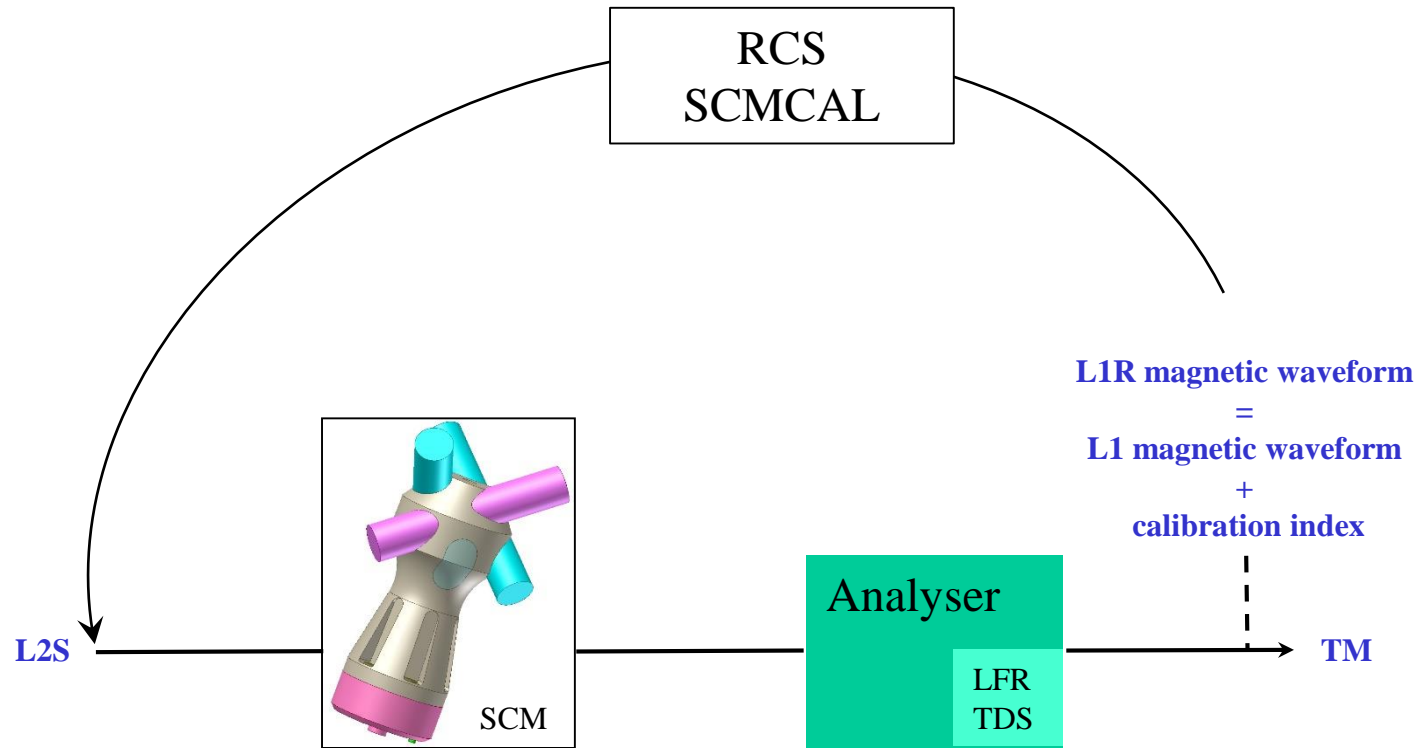
SCMCAL

- RCS : purpose
- SCM software team
- Skeletons deliveries
- RCS development status
- SCMCAL modes
- To do

RCS
SCMCAL

L1R magnetic waveform
=
L1 magnetic waveform
+
calibration index

L2S

Analyser

LFR
TDS

SCM

TM

The SCM team is now responsible for the calibration of the analyser parts

Responsible of the RCS

      M. Kretzschmar

Software manager

      J-Y. Brochot

Software engineer

      G. Cassam-Chenai

Skeletons L2S (10 datasets)

- Version V03
- last updated on 23/10/2017
- Compliant with ROC-TST-GSE-NTT-00017-LES V2.1

Skeletons L2 (10 datasets)

- Version V01 (**delivery 15/12/2017**)
- Compliant with ROC-PRO-DAT-NTT-0006-LES V1.1

Calibration software

- Black box release (March 2016)
- L2S_RPW-LFR-SURV-SWF-B from L2R_RPW-LFR-SURV-SWF (June 2016)
- Last release 0.4.0.0 (December 2016)
    - LFR L2R Magnetic Waveforms → L2S Magnetic Waveforms
    - LFR L1 Magnetic Waveforms → L2S Magnetic Waveforms (doesn't include LFR transfer functions)
    - TDS L2R Magnetic Waveforms → L2S Magnetic Waveforms

    Can be run using SCM-EM or SCM-PFM transfer functions
- Release 0.4.0.1 (January 2017)
    - Correction of the MF transfer functions on SCM PFM
- Release 0.6.0 to come (**delivery 15/12/2017**)
    - Use of a transfer matrix to calibrate B-LF waveforms
    - The transfer matrices (B-LF) and functions (B-MF) now depend on the analyzer electric status (ON/OFF) and the SCM temperature
    - LFR L1 Magnetic Waveforms → L2S Magnetic Waveforms
    - LFR-SURV-SWF L1 Magnetic Waveforms → L2 Magnetic Waveforms
    - **Not done yet** : Waiting for L1R data and analyzers calibration files to code the calibration of L1R → L2, L2S

SCMCAL modes

from L1	From L1R	from L2R	Dataset	Transfer Functions
LFR				
✓		✓	ROC-SGSE_L2S_RPW-LFR-SBM1-CWF-B_V03	SCM only (constant factor for LFR if source is L1)
✓		✓	ROC-SGSE_L2S_RPW-LFR-SBM2-CWF-B_V03	SCM only (constant factor for LFR if source is L1)
✓		✓	ROC-SGSE_L2S_RPW-LFR-SURV-CWF-B_V03	SCM only (constant factor for LFR if source is L1)
✓		✓	ROC-SGSE_L2S_RPW-LFR-SURV-SWF-B_V03	SCM + LFR ASCII Files
✓			**ROC-SGSE_L2_RPW-LFR-SURV-SWF-B_V01**	SCM + LFR ASCII Files
TDS				
		✓	ROC-SGSE_L2S_RPW-TDS-LFM-CWF-B_V03	
		✓	ROC-SGSE_L2S_RPW-TDS-LFM-RSWF-B_V03	
		✓	ROC-SGSE_L2S_RPW-TDS-SBM1-RSWF-B_V03	
		✓	ROC-SGSE_L2S_RPW-TDS-SBM2-TSWF-B_V03	
		✓	ROC-SGSE_L2S_RPW-TDS-SURV-RSWF-B_V03	
		✓	ROC-SGSE_L2S_RPW-TDS-SURV-TSWF-B_V03	

Calibration software

- Write L2 Magnetic skeletons
- Integrate the calibration files from the analyzers teams
  (L1R → L2S)
- Write the modes L1R → L2
- Make use of the electric analyzers status (ON/OFF) and the SCM temperature to select the correct transfer functions (or matrices)
- Manage the changes of the parameters during a file.

Other SCM activities

- Development of visualisation tools
- Development of the merging L3 software (MAG and SCM)
- Development of tools to use the data with onboard calibration signal