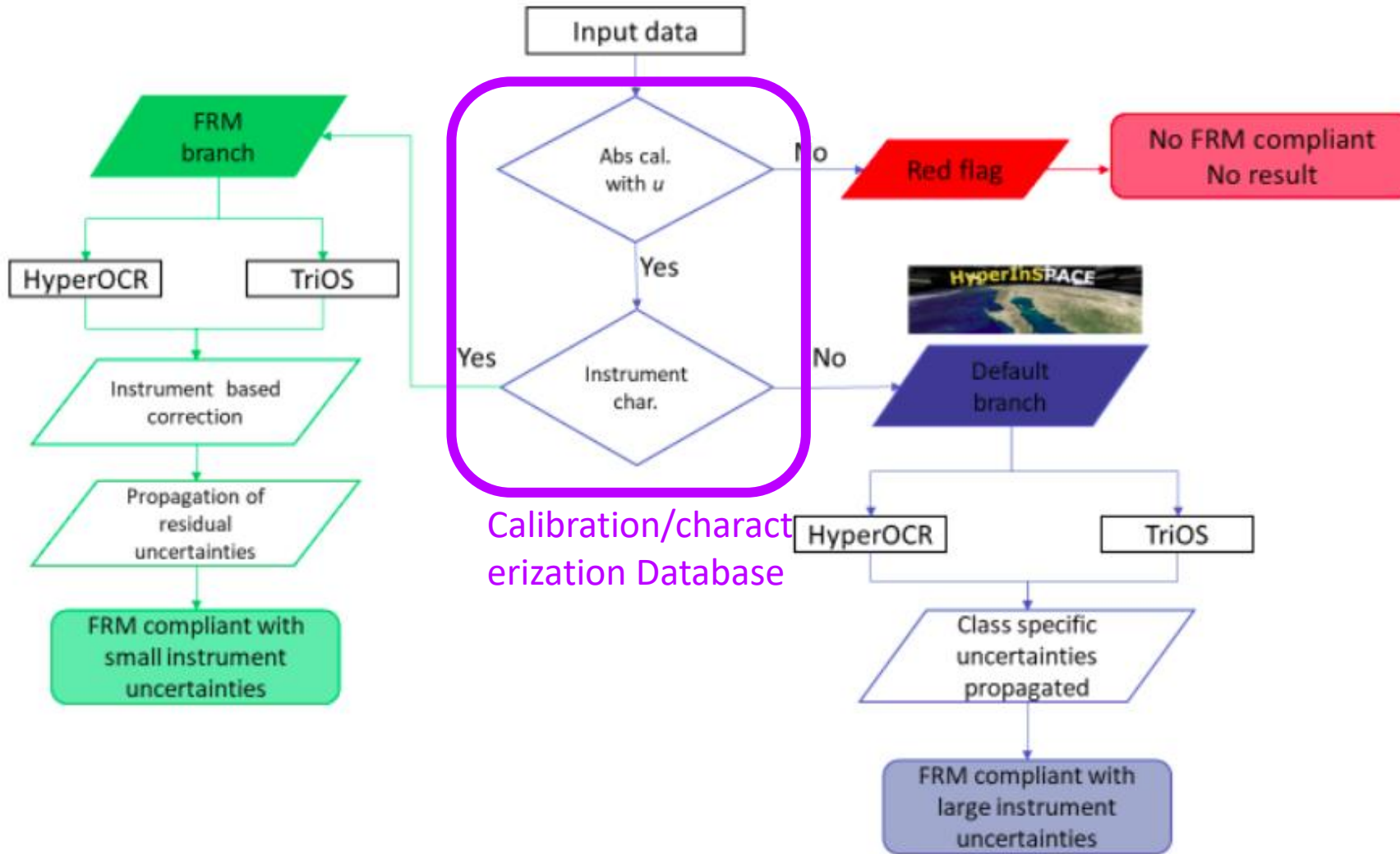# Instrument cal/char database (FidRadDB)

User Workshop, 5-7 Dec

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Accepted files:

- Tartu calibration files (ex: Cal_SAM_862D.dat)

- TRIOS calibration files
    - ✓Angular : angular responsivity characterization results
    - ✓Polar : polarization sensitivity characterization results
    - ✓Radcal : radiometric calibration coefs & linearity, lamp and panel data
    - ✓Straylight : straylight characterization results
    - ✓Thermal: thermal characterization results

Tartu format

File type: !

Metadata
name : []

```
 1 !FRM4SOC_CP
 2 !RADCAL
 3 # radiometric calibration coefs & linearity, lamp and panel data
 4 # comments start with # (ignored by the processor)
 5 # no empty lines between the parameter signatures in [] and the parameter values
 6 # parameters are case insensitive
 7 # parameters can be inserted in any order, except the first two signatures
 8 # columns are tab- or space-delimited
 9
10 [VERSION]
11 0.1
12
13 [CALDATE]
14 2022-06-27 11:35:10          ←  Metadata data
15
16 [CALLAB]
17 Tartu Observatory
18
19 [USER]
20 Riho Vendt
21
22 [LAMP_ID]
23 TO_717
24
25 [PANEL_ID]
26 SG3151_2019
27
28 [DEVICE]
29 SAM_81CA
30
31 [LAMP_CCT]
32 2990.7
33
34 [LAMPDATA]
35 300.00  0.00    1.5637  2.31
36 300.50  0.00    1.5923  2.29
37 301.00  0.00    1.6214  2.27          Metadata data
38 301.50  0.00    1.6508  2.25
39 302.00  0.00    1.6807  2.23
40 302.50  0.00    1.7109  2.21
41 [END_OF_LAMPDATA]
42
43 [AMBIENT_TEMP]
44 21.0
45
46 [CALDATA]
47 0      302.35  5       0.00    12      0.000000        128     0.00    64      0.00
48 1      305.66  0.000000        0.00    0.024802        0.029569        203.89  0.72    205.43  1.54
49 2      308.97  0.000000        0.00    0.024849        0.029852        217.42  0.76    216.96  1.48
50 3      312.28  0.000000        0.00    0.024692        0.029249        237.02  0.80    241.03  1.71
51 4      315.60  0.000000        0.00    0.024828        0.029255        264.85  0.67    267.43  1.37
52 [END_OF_CALDATA]
```

Mandatory and optional metadata

File type

	ANGDATA	POLDATA	RADCAL	STRAYDATA	TEMPDATA
CALDATE	M	M	M	M	M
DEVICE	M	M	M	M	M
CALLAB	M	M	M	M	M
USER	O	O	O	O	O
VERSION	O	O	O	O	O
CALDATA	-	M	M	-	M
UNCERTAINTY	M	-	-	M	-
COSERROR	M	-	-	-	-
LSF	-	-	-	M	-
PANEL_ID	-	-	O	-	-
LAMP_ID	-	-	O	-	-
AZIMUTH_ANGLE	M	-	-	-	-
LAMP_CCT	-	-	O	-	-
AMBIENT_TEMP	-	O	O	O	O
REFERENCE_TEMP	-	-	-	-	M
PANELDATA	-	O	-	-	-
LAMPDATA	-	O	-	-	-

metadata

Files submission

Test version: https://ocdb-stage.eumetsat.int/

Wait deployment on
https://ocdd.eumetsat.int/
before use.

Any suggestion or demand about files submission?
How many files should be submitted as the same time?

Messages from file validation check:

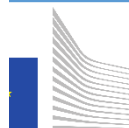| Accepted files		Non accepted files	
`Warning: optional metadata XXX is not available`	Missing non mandatory metadata	`Error, file type could not be recognized`	File type (ex: !RADCAL) is not found
`Warning: optional metadata XXX is invalid`	Invalid non mandatory metadata	`Error: metadata XXX is mandatory but is not available`	Non found mandatary metadata
`uploaded file passed all QC on file format and is accepted!`	Process is finished and files are accepted	`Error: metadata XXX is mandatory but is invalid`	Not valid mandatory metadata

Problems with file type

```
1 !FRM4SOC_CP
2 !STRAYDATA2
3 # straylight characterization results
4
5 # comments start with # (ignored by the processor)
6 # no empty lines between the parameter signatures in
7 # parameters are case insensitive
8 # parameters can be inserted in any order, except the
9 # columns are tab- or space-delimited
10
11 # file format version
12 # type(s): string(255)
13 [VERSION]
14 0.1
15
16 # calibration date
17 # type(s): fixed format as shown
18 [CALDATE]
19 yyyy-mm-dd hh:mm:ss
20
21 # calibration lab name
22 # type(s): string(255)
23 [CALLAB]
24 Tartu Observatory
25
26 # calibration lab person to contact
27 # type(s): string(255)
28 [USER]
29 Riho Vendt
30
31 # serial number
32 # type(s): stri
33 [DEVICE]
34 SAM_8329
35
36 # n x n matrix,
37 type(s): single
38 [CALDATA]
39 1.00000E+00
   0.00000E+00
   0.00000E+00
   0.00000E+00
   0.00000E+00   0.00000E+00   0.00000(
   0.00000E+00   0.00000E+00   0.00000(
   0.00000E+00   0.00000E+00   0.00000(
   0.00000E+00   0.00000E+00   0.00000(
```

```
Open  ▼  ⊞                                          stra
                                      ~/Documents/F

1 !FRM4SOC_CP
2 STRAYDATA
3 # straylight characterization results
4
5 # comments start with # (ignored by the processor)
6 # no empty lines between the parameter signatures in [] and the parameter values
7 # parameters are case insensitive
8 # parameters can be inserted in any order, except the first two signatures
9 # columns are tab- or space-delimited
10
11 # file format version
12 # type(s): string(255)
13 [VERSION]
14 0.1
15
16 # calibration date
17 # type(s): fixed format as shown
18 [CALDATE]
19 yyyy-mm-dd hh:mm:ss
20
21 # calibration lab name
22 # type(s): string(255)
23 [CALLAB]
24 Tartu Observatory
```

```
Run:  🐍 main ✕

▶  ↑   /home/hlavigne/anaconda3/envs/OCDB/bin/python /home/hlavigne/Documents/FRM4SOC/PYTHON/main.py
🔧  ↓   /home/hlavigne/Documents/FRM4SOC/fileformats/straylight.txt has been read
■  ⇥   --------------------------
   ⤓   Error, file type could not be recognized
        --------------------------

        Process finished with exit code 0
```

RAMSES & HyperOCR n=256)

```
38 [CALDATA]
39 1.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000
```

Problems with metadata

Valid file:

```
----------------------------
RADCAL file has been recognized
----------------------------
The following metadata were found:
VERSION: 0.1
CALDATE: 2018-06-21 14:47:29
CALLAB: Tartu Observatory
USER: Riho Vendt
LAMP_ID: TO_7
PANEL_ID: SG3151/1
DEVICE: SAT0222
LAMP_CCT: 2967.0
LAMPDATA: 300.00      0.00      1.3604  4.00
PANELDATA: 380.00     0.00      0.9780  1.20
AMBIENT_TEMP: 21.0
CALDATA: 0  0.00      1024.000    0   0.000   0.000   1024.000    0   512.000 0
----------------------------
check metadata validity:
VERSION: valid
CALDATE: valid
CALLAB: valid
USER: valid
LAMP_ID: valid
PANEL_ID: valid
DEVICE: valid
LAMP_CCT: valid
LAMPDATA: valid
PANELDATA: valid
AMBIENT_TEMP: valid
CALDATA: valid
----------------------------
uploaded file passed all QC on file format and is accepted!

Process finished with exit code 0
```

Questions
Thank you for your attention

Metadata name	Ending code?	Test
[CALDATE]	-	Valid date format: YYYY-MM-DD HH:MM:SS
[DEVICE]	-	Device serial number. Either SAM_XXXX for TriOS or SATXXXX for Satlantic. X are numbers.
[CALDATA]	[END_OF_CALDATA]	File type = RADCAL More than 5 lines, columns are separated by tabulations, 10 columns (i.e. elements per line) for TriOS senors and 8 for satlantic sensors.
		File type = POLDATA More than 5 lines, columns are separated by tabulations, 6 columns (i.e. elements per line)
		File type = TEMPDATA More than 5 lines, columns are separated by tabulations, 3 columns (i.e. elements per line)
[COSERROR]	[END_OF_COSERROR]	More than 5 lines, columns are separated by tabulations, 47 columns (i.e. elements per line)
[UNCERTAINTY]	[END_OF_UNCERTAINTY]	File type = ANGDATA More than 5 lines, columns are separated by tabulations, 47 columns (i.e. elements per line)
		File type = STRAYDATA More than 5 lines, columns are separated by tabulations, 256 columns (i.e. elements per line)
[LSF]	[END_OF_LSF]	More than 5 lines, columns are separated by tabulations, 256 columns (i.e. elements per line)
[AZIMUTH_ANGLE]	-	float
[PANEL_ID]	-	Not empty character string
[LAMP_ID]	-	Not empty character string
[USER]	-	Not empty character string
[CALLAB]	-	Not empty character string
[LAMP_CCT]	-	float
[VERSION]	-	float
[AMBIENT_TEMP]	-	float
[REFERENCE_TEMP]	-	float
[DEVICE_TEMP]	-	float
[PANELDATA]	[END_OF_PANELDATA]	More than 5 lines, columns are separated by tabulations, 4 columns (i.e. elements per line)
[LAMPDATA]	[END_OF_LAMPDATA]	More than 5 lines, columns are separated by tabulations, 4 columns (i.e. elements per line)