

**NAME**

modcalf.pl – Propagate changes through FGM daily calibration files.

**SYNOPSIS**

```
modcalf.pl --month month [--year year] [--from yymmdd[vNN]] --begin day_begin|--day day
[--end day_end] --spacecraft spacecraft --parameter name [--line line] --column column --group
parameter group [--Value value] --r-ange range [--version version] [--(no)log] [--(no)idl]
[--(no)ask] [--help]
```

**DESCRIPTION**

This script propagates a given parameter value through FGM *cfgnew* daily calibration files. If no value (**--Value**) or initialization day (**--from**) is given, the value to propagate is read from the first file in sequence. By default, the changes are also reflected in the corresponding *fgmcal* file. Groups of more parameters corresponding to range changes, higher harmonics, or entire ranges can also be changed.

**OPTIONS**

**-m** *month*, **--month** *month*

The month. One or two digits. Mandatory argument.

**-y** *year*, **--year** *year*

The year. One or two digits. Default is the current year.

**-b** *day\_begin*, **--begin** *day\_begin*

First day in sequence. One or two digits. Either this argument or (**--day** *day*) has to be used.

**-d** *day*, **--day** *day*

Only this day will be changed. Takes precedence over **-b** and **-e** options.

**-e** *day\_end*, **--end** *day\_end*

Last day in sequence. Default is end of month.

**-s** *spacecraft*, **--spacecraft** *spacecraft*

The spacecraft number (1–4). Mandatory argument.

**-p** *name*, **--parameter** *name*

The name of the parameter to be modified. This name is the GUI parameter name and NOT the name in the calibration file. Valid names are:

```
offset_r2,
offset_r3,
offset_r4,
offset_r5,
offset_r6,
offset_r7,
```

```
offset_sc,
```

```
Matrix_r2,
Matrix_r3,
Matrix_r4,
Matrix_r5,
Matrix_r6,
Matrix_r7,
```

```
Matrix_sc,
Matrix_dr,
Angle_xyz.
```

**-l** *line*, **--line** *line*

The matrix line (1–3). Default is 1.

**-c** *column*, **--column** *column*

The matrix column (1–3). Mandatory argument if **-g** option is not used.

**-f** *yymmdd*, **--from** *yymmdd[vNN]*

Initialization day and version. Day from which the the values to be propagated are red. If the version part is omitted the version given by the environment variable FGMVERSION is used unless overwritten by the **-version**. Deafault version is 03. Without the **-from** option, the values are red from the first day in the sequence unless the **-Value** option is given.

**-V** *value*, **--Value** *value*

The value to be assigned. Takes precedence over the **-from** option. Default value is read from the first file if neither **-Value** or **-from** options are given.

**-g** *parameter\_group*, **--group** *parameter\_group*

Specify a group of parameters to propagate. Valid values are:

```
rNM  ->  -p offset_rM -c 1
        -p offset_rM -c 2
        -p offset_rM -c 3
```

```
rNMP ->  rNM and rMP
```

```
hhN  ->  -p Matrix_rN -l 3 -c 2
        -p Matrix_rN -l 3 -c 3
```

```
angle ->  -p Angle_xyz -c 1
        -p Angle_xyz -c 2
        -p Angle_xyz -c 3
```

```
sco   ->  -p offset_sc -c 2
        -p offset_sc -c 3
```

```
RN    ->  -p offset_rN -c 1
        -p offset_rN -c 2
        -p offset_rN -c 3
        -p Matrix_rN -l 1 -c 1
        -p Matrix_rN -l 1 -c 2
        -p Matrix_rN -l 1 -c 3
        -p Matrix_rN -l 2 -c 1
        -p Matrix_rN -l 2 -c 2
        -p Matrix_rN -l 2 -c 3
        -p Matrix_rN -l 3 -c 1
        -p Matrix_rN -l 3 -c 2
        -p Matrix_rN -l 3 -c 3
```

N,M,P can take values from 2 to 6 and must be consecutive.

**-r** *range*, **--range** *range*

If given, changes are propagated only from and to the given range. Otherwise all ranges are modified.

**-v** *version*, **--version** *version*

Version of the calibration files. If this option is not given then the environment variable FGMVERSION is used. If FGMVERSION is not set, then the default version is 3.

**--log**

Record the run to dailycal log file. Default is enabled. Can be disbled using the **-nolog** option.

**-i**, **--idl**

Change the *fgmcal* files to reflect the new *cfgnew* files. This option is enabled by default. To disable it, negate: **--noidl**.

**-a, --ask**

Ask for confirmation before proceeding to propagate the changes. This option is enabled by default. To disable it, negate: **--noask**.

**-h, -?, --help**

Prints a brief help message.

**EXAMPLE**

propagate `sc 1` `offset_sc`, `z` value, from february 20 to 28:

```
modcalf.pl -s 1 -m 2 -b 20 -e 28 -p offset_sc -c 3
```

propagate the parameters corresponding to higher harmonic calibration for range 4 (`Matrix_r4`, line 3, columns 2 and 3) for spacecraft 3 from 21 june to the end of the month:

```
modcalf.pl -s 3 -m 6 -b 21 -g hh4
```

**ENVIRONMENT**

**FGMROOT**

Root for the FGM calibration directory structure. Default to `/home/FGM/` if not set.

**FGMPATH**

Path to calibration files (`*.fgmcal` and `*.cfgnew`). Default to `$FGMROOT/data/dcalf/` if not set.

**FILES**

`$FGMPATH` – working directory

`c$sc_$yy$mm$dd_hhmmr$V01.cfgnew` – daily calibration files

`$FGMROOT/log/dailycal/dailycal_$yy$mm.log` – Dailycal log file.

`FGMROOT/cfg/cfgnew2fgmcal.lst` – list of changed files. Used by `cfgnew2fgmcal.pro` to produce the corresponding `fgmcal` files.

**DEPENDENCES**

This script depends on the `cfgnew2fgmcal.pro` IDL script.

**AUTHOR**

Dragos Constantinescu <d.constantinescu@tu-bs.de>