NAME

findr2.pl − Finds optimum range 2 daily calibration intervals.

SYNOPSIS

findr2.pl **−−month** *month* [**−−year** *year*] [**−−day** *day*} [**−−spacecraft** *spacecraft*] [**−−ICL**] [**−−calday** *yymmdd*] [**−−version** *version*] [**−−(no)log**] [**−−help**]

DESCRIPTION

This script finds the optimum intervals for range 2 calibration. For each day the range 2 intervals longer than 30 minutes and with no data gaps longer than 10s are identified from the *cd_log* files. Using calibration parameters known from the previous month (or from a day given in the command line) the Fourier power spectrum for these intervals is computed over a sliding window with a width of 5 minutes. The time corresponding to the minimum of the total wave power in the frequency bands bellow (10 to 200 mHz) and above (260 to 450 mHz) the spin frequency is selected and saved in the *uncal* file.

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.

−d *day*, **−−day** *days*

The day. One or two digits. If absent, all the days with non-empty *cd_log* files in the month are processed.

−s *spacecraft*, **−−spacecraft** *spacecraft*

The spacecraft number (1−4) or list of spacecraft e.g. `-s '1 3 4'`. Defaults to all spacecraft.

−I ,**−−ICL**

Use the Imperial College London raw data. Default is to use the ESTEC raw data.

−c *yymmdd*, **−−calday** *yymmdd*

The date from wich the calibration parameters are used to compute the spectra. If absent, the script will use day 28 from the previous month.

−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.

−l, **−−log**

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

−h, **−?**, **−−help**

Prints a brief help message.

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.

SATTPATH

Path to orbit parameters files. Default to *$FGMROOT/log/atorb/* if not set.

FILES

$FGMROOT/cfg/uncal_yymm.txt − output file for the optimum range 2 calibration intervals. This file is used by **mkuncal.pl** to produce the *uncal* files.

$FGMROOT/data/raw/ICL/$yy_$mm/ − Imperial input path

$FGMROOT/data/raw/ESTEC/cluster$sc/[n|b]sd_$sc/ − ESTEC (default) input path

$FGMROOT/data/uncal/$yy_$mm/ − output path

C$s_$yymmdd_B.[B|N]S − Imperial input files

yymm$dd.f[n|b].?a$sc − ESTEC (default) input files

$FGMROOT/log/dailycal/dailycal_yymm.log − Dailycal log file.

DEPENDENCES

This script uses the following:

```
ddsmrg,
fgmtel,
fgmcut,
fgmcal,
fgmhrt,
fgmav,
fgmpos,
igmvec.
```

AUTHOR

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