L1A : Process RAW to L1A

Raw binary to HDF5 and filter data on SZA.

Processing Parameters and metadata:
HyperInSPACE version: 1.0.6

 The stuff that dreams are made of.
/version=R0
/investigators=Sam_Spade
/affiliations=Sam_Spade_Detective_Agency
/contact=supersleuth@noir.com
/experiment=sample
/cruise=Sample1
/documents=LogSheet.xls,ProcessReport.xls
/instrument_manufacturer=Satlantic
/instrument_model=HyperSAS
/calibration_date=
/calibration_files=HSE488B.cal,HSL386B.cal,HLD386B.cal,HED488B.cal,SATTHS0045A.tdf,HLD385B.cal
,HSL385B.cal,SATNAV0001A.tdf,GPRMC_NMEA0183v3.01.tdf
/data_type=above_water
/data_status=preliminary
/water_depth=NA
/measurement_depth=0
/cloud_percent=NA
/wave_height=NA
/secchi_depth=NA
/station=
/original_file_name=
/start_date=
/end_date=
/start_time=
/end_time=
/north_latitude=
/south_latitude=
/east_longitude=
/west_longitude=
/wind_speed=

Process log:
Process Single Level
ProcessL1a.processL1a: 09-Apr-2021 12:19:15
L1A file produced:
 /Users/daurin/GitRepos/HyperInSPACE/Data/L1A/SAMPLE_HYPERSAS_SOLARTRACKER_L1A.hdf
Process   Single   Level:
/Users/daurin/GitRepos/HyperInSPACE/Data/L1A/SAMPLE_HYPERSAS_SOLARTRACKER_L1A.hdf   -
SUCCESSFUL

L1B : Process L1A to L1B

Apply factory calibrations.

Processing Parameters: None

Process log:
Process Single Level
ProcessL1b.processL1b: 09-Apr-2021 12:20:02
Applying factory calibrations.
  Group: GPRMC_NMEA0183v3.01.tdf
    File: $GPRMC
  Group: HED488B.cal
    File: SATHED0488
  Group: HLD385B.cal
    File: SATHLD0385
  Group: HLD386B.cal
    File: SATHLD0386
  Group: HSE488B.cal
    File: SATHSE0488
  Group: HSL385B.cal
    File: SATHSL0385
  Group: HSL386B.cal
    File: SATHSL0386
  Group: SATNAV0001A.tdf
    File: SATNAV0001
L1B file produced:
 /Users/daurin/GitRepos/HyperInSPACE/Data/L1B/SAMPLE_HYPERSAS_SOLARTRACKER_L1B.hdf
Process   Single   Level:
/Users/daurin/GitRepos/HyperInSPACE/Data/L1B/SAMPLE_HYPERSAS_SOLARTRACKER_L1B.hdf   -
SUCCESSFUL

L1C : Process L1B to L1C

Filter data on pitch, roll, yaw, and azimuth angles.

Processing Parameters:
Rotator Home Angle: 0.0Pitch/Roll Filter: 5.0Rotator Min: -40.0Rotator Max: 40.0Rel Azimuth Min: 90.0Rel Azimuth Max: 135.0
Process log:
Process Single Level
Found data: station
Found data: lat
Found data: lon
Found data: wind
Found data: wt
Found data: sal
Found data: speed_f_w
ProcessL1c:
/Users/daurin/GitRepos/HyperInSPACE/Data/L1B/SAMPLE_HYPERSAS_SOLARTRACKER_L1B.hdf
ProcessL1c.processL1c: 09-Apr-2021 14:44:55
Bad Datetag or Timetag2 found. Eliminating record. 3158326.0 : 758134061.0
Filtering file for high pitch and roll
Percentage of SolarTracker data out of Pitch/Roll bounds: 0 %
Filtering file for bad Absolute Rotator Angle
Percentage of SolarTracker data out of Absolute Rotator bounds: 0 %
Filtering file for bad Relative Solar Azimuth
Percentage of data out of Relative Solar Azimuth bounds: 3 %
      Flag data from TT2: 2016-05-20 07:58:17.566000+00:00 to 2016-05-20 07:59:48.483000+00:00 (HHMMSSMSS)
Eliminate combined filtered data from datasets.*****************************
Remove ES_DARK Data
  Length of dataset prior to removal 1033 long
  Length of records removed from dataset: 8
  Data end 1025 long, a loss of 1 %
Remove ES_LIGHT Data
  Length of dataset prior to removal 3579 long
  Length of records removed from dataset: 23
  Data end 3556 long, a loss of 1 %
Remove GPS Data
  Length of dataset prior to removal 1777 long
  Length of records removed from dataset: 45
  Data end 1732 long, a loss of 3 %
Remove LI_DARK Data
  Length of dataset prior to removal 1027 long
  Length of records removed from dataset: 8
  Data end 1019 long, a loss of 1 %
Remove LI_LIGHT Data
  Length of dataset prior to removal 4753 long
  Length of records removed from dataset: 37
  Data end 4716 long, a loss of 1 %

Remove LT_DARK Data
   Length of dataset prior to removal 245 long
   Length of records removed from dataset: 2
   Data end 243 long, a loss of 1 %
Remove LT_LIGHT Data
   Length of dataset prior to removal 1243 long
   Length of records removed from dataset: 9
   Data end 1234 long, a loss of 1 %
Remove SOLARTRACKER Data
   Length of dataset prior to removal 1776 long
   Length of records removed from dataset: 46
   Data end 1730 long, a loss of 3 %
Remove ANCILLARY_METADATA Data
   Length of dataset prior to removal 59 long
   Length of records removed from dataset: 1
   Data end 58 long, a loss of 2 %
Unable to write file. May be open in another application.
L1C file produced:
 /Users/daurin/GitRepos/HyperInSPACE/Data/L1C/SAMPLE_HYPERSAS_SOLARTRACKER_L1C.hdf