



ADM-Aeolus  
L2B-processor status

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## L2BP 1.33 delivery, 29-Feb-2008

- Changes w.r.t. 1.32 delivery of 04-Feb-2008 are minor:
  - interface to L1B v1.09 and v1.10 product files
  - -FakeDateTime option for Level-1B EE2Bufc converter
  - fixes for SPR's:
    - 006/023 (datetime format in L2C AuxPar file)
    - 028 (corrected filling of some FH and MPH fields)
  - some documentation updates

## L2BP changes since 1.33 delivery

- Changes implemented after the 1.33 delivery are:
  - addition of new OpticalProperties code written by GJM (see presentation PM11)
  - portability effort to MF NEC mainframe by PP (in progress, see slides PP)
  - implemented use of MPI commands inside our low level Buffering module, to facilitate passing on large ee\_cfi files on multi processor machines (IFS), and addition of a dummy MPI library for portability
  - added -FakeDate option for Level-1B EE2Bufr converter
  - update of the matlab plotting tool (see slides PP)

## L2BP status (summary)

### Open issues:

- \* finish input screening routines
  - \* add reading code for Aux.Cal and Auc.Clim input files
  - \* implement ground contamination handling
  - \* implement use of zero-wind calibration result
  - \* schemas for AuxClim, AuxCal, AuxRBC, AuxMet (and L1B?) header files
- 
- \* E2S, L1B dependency
  - \* testing, testing, testing

# L2BP portability status

The current L2BP v1.33 has been tested on the following platform/compiler combinations:

Test results

platform	compiler	xml-library	passed	failed	skipped	remarks
linux 32 bit intel	g95	ee_cfi	232	0	0	
linux 32 bit intel	pgf90	ee_cfi	232	0	0	
linux 32 bit intel	ifort	ee_cfi	231	1	0	small rounding difference
linux 32 bit intel	g95	simple_xml	223	0	9	
linux 32 bit intel	gfortran	simple_xml	215	8	9	problems in BUFR library
linux 32 bit intel	ifort	simple_xml	222	1	9	small rounding difference
linux 32 bit intel	pgf90	simple_xml	223	0	9	
linux 32 bit AMD	g95	simple_xml	221	2	9	small rounding differences
linux 64 bit intel	g95	simple_xml	191	30	9	problems in BUFR library, python scripts
linux 64 bit intel	ifort	simple_xml	180	43	9	problems in BUFR library, python scripts
linux 64 bit AMD	g95-64bit	simple_xml	202	19	9	2 missing (RBC), problems in BUFR library
linux 64 bit AMD	gfortran-64b	simple_xml	211	12	9	problems in BUFR library
IBM unix	xlf90	simple_xml	210	13	9	problems in BUFR library
SUN unix	sun-f90	simple_xml	139	70	9	14 miss., BUFR lib., col. 80, Arithm.exceptions
NEC unix	sun-f90	simple_xml	66	153*	9	8 byte integer issue, * older L2BP version

## E2S-L1B-L2B script (1)

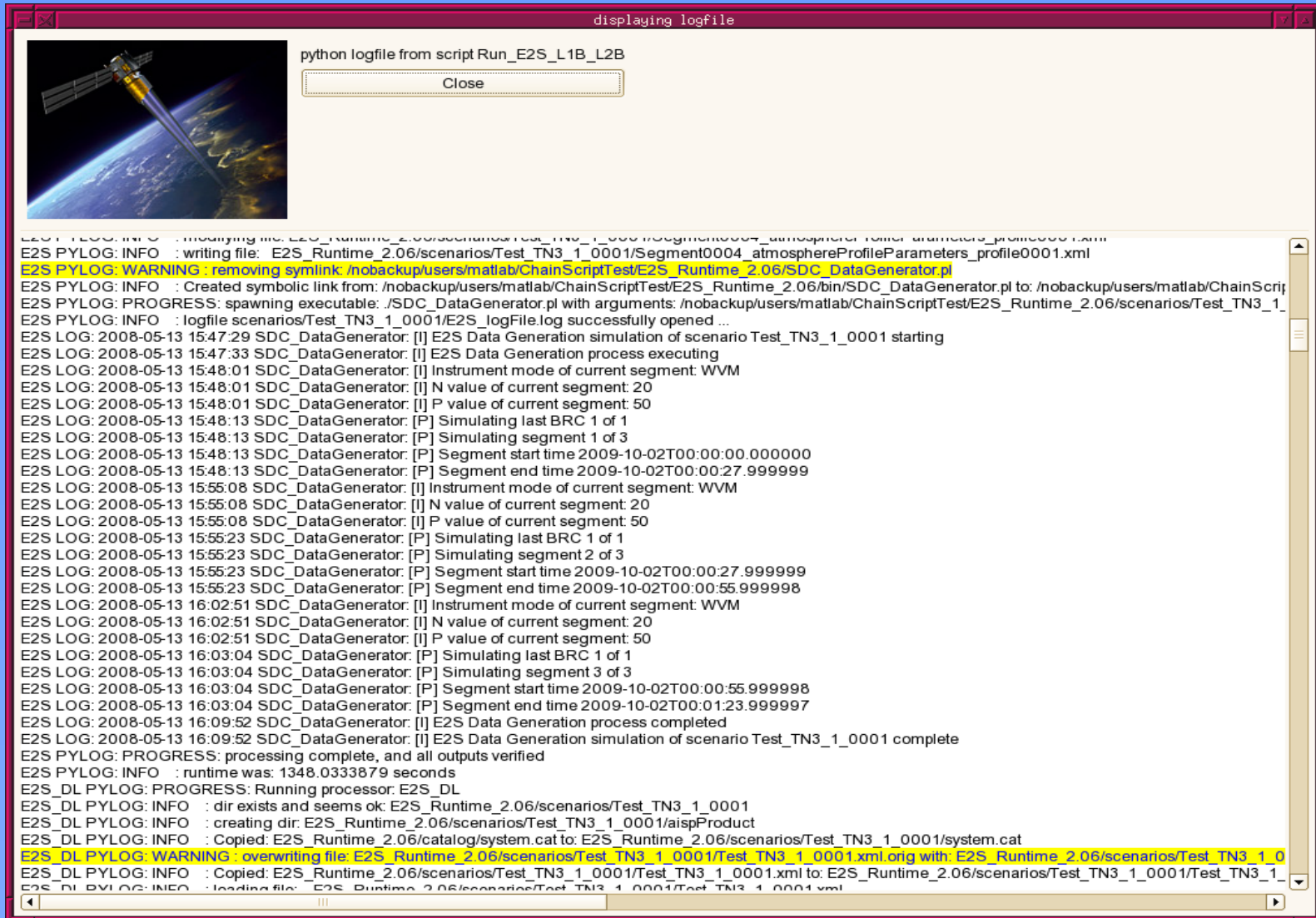
- see slides L1B PM13
- as an example, I created a little script to run test case #001 from TN 3.1, settings:
  - 3 BRC's, hlos -50/0/+50 m/s
  - no noise
  - no horizontal interpolation
  - perfect Mie-Rayleigh range bin matching

## E2S-L1B-L2B script (2)

- The script then reads:

```
#!/usr/bin/env python
AtmScenarioName = "single_RMA_profile_subarctic_winter"
ScenarioName    = "Test_TN3_1_0001"
PythonLogfileName = "Log_"+ScenarioName+".txt"
RangeBinSetting = "WVM1"
AllNoiseFlag    = False
PoissonNoiseFlag = False
AocsErrorFlag   = False
RmsNoiseFlag    = False
InterpolateHorizontal = False
Use_AtmosphereDataBase = True
UseAtmosphereDBtiming = False
DateTimeStep    = 28.0 - 1.e-6
NumSegments     = 4 # minimum is 2 !
ForceHlosWind   = ["-50.0","0.0","50.0","50.0"] # [m/s]
ForceAerExtinction = 0.0 # in [1E-6/meter]
ForceAerBackscatter = 0.0 # in [1E-6/meter/steradian]
L2B_Classification = "Class_No_Clouds"
RunAll          = True
```

# E2S-L1B-L2B script: gui




```

python logfile from script Run_E2S_L1B_L2B
Close

E2S PYLOG: INFO : writing file: E2S_Runtime_2.06/scenarios/Test_TN3_1_0001/Segment0004_atmosphereProfileParameters_profile0001.xml
E2S PYLOG: WARNING : removing symlink: /nobackup/users/matlab/ChainScriptTest/E2S_Runtime_2.06/SDC_DataGenerator.pl
E2S PYLOG: INFO : Created symbolic link from: /nobackup/users/matlab/ChainScriptTest/E2S_Runtime_2.06/bin/SDC_DataGenerator.pl to: /nobackup/users/matlab/ChainScriptTest/E2S_Runtime_2.06/bin/SDC_DataGenerator.pl
E2S PYLOG: PROGRESS: spawning executable: ./SDC_DataGenerator.pl with arguments: /nobackup/users/matlab/ChainScriptTest/E2S_Runtime_2.06/scenarios/Test_TN3_1_0001/Segment0004_atmosphereProfileParameters_profile0001.xml
E2S PYLOG: INFO : logfile scenarios/Test_TN3_1_0001/E2S_logFile.log successfully opened ...
E2S LOG: 2008-05-13 15:47:29 SDC_DataGenerator: [I] E2S Data Generation simulation of scenario Test_TN3_1_0001 starting
E2S LOG: 2008-05-13 15:47:33 SDC_DataGenerator: [I] E2S Data Generation process executing
E2S LOG: 2008-05-13 15:48:01 SDC_DataGenerator: [I] Instrument mode of current segment: WVM
E2S LOG: 2008-05-13 15:48:01 SDC_DataGenerator: [I] N value of current segment: 20
E2S LOG: 2008-05-13 15:48:01 SDC_DataGenerator: [I] P value of current segment: 50
E2S LOG: 2008-05-13 15:48:13 SDC_DataGenerator: [P] Simulating last BRC 1 of 1
E2S LOG: 2008-05-13 15:48:13 SDC_DataGenerator: [P] Simulating segment 1 of 3
E2S LOG: 2008-05-13 15:48:13 SDC_DataGenerator: [P] Segment start time 2009-10-02T00:00:00.000000
E2S LOG: 2008-05-13 15:48:13 SDC_DataGenerator: [P] Segment end time 2009-10-02T00:00:27.999999
E2S LOG: 2008-05-13 15:55:08 SDC_DataGenerator: [I] Instrument mode of current segment: WVM
E2S LOG: 2008-05-13 15:55:08 SDC_DataGenerator: [I] N value of current segment: 20
E2S LOG: 2008-05-13 15:55:08 SDC_DataGenerator: [I] P value of current segment: 50
E2S LOG: 2008-05-13 15:55:23 SDC_DataGenerator: [P] Simulating last BRC 1 of 1
E2S LOG: 2008-05-13 15:55:23 SDC_DataGenerator: [P] Simulating segment 2 of 3
E2S LOG: 2008-05-13 15:55:23 SDC_DataGenerator: [P] Segment start time 2009-10-02T00:00:27.999999
E2S LOG: 2008-05-13 15:55:23 SDC_DataGenerator: [P] Segment end time 2009-10-02T00:00:55.999998
E2S LOG: 2008-05-13 16:02:51 SDC_DataGenerator: [I] Instrument mode of current segment: WVM
E2S LOG: 2008-05-13 16:02:51 SDC_DataGenerator: [I] N value of current segment: 20
E2S LOG: 2008-05-13 16:02:51 SDC_DataGenerator: [I] P value of current segment: 50
E2S LOG: 2008-05-13 16:03:04 SDC_DataGenerator: [P] Simulating last BRC 1 of 1
E2S LOG: 2008-05-13 16:03:04 SDC_DataGenerator: [P] Simulating segment 3 of 3
E2S LOG: 2008-05-13 16:03:04 SDC_DataGenerator: [P] Segment start time 2009-10-02T00:00:55.999998
E2S LOG: 2008-05-13 16:03:04 SDC_DataGenerator: [P] Segment end time 2009-10-02T00:01:23.999997
E2S LOG: 2008-05-13 16:09:52 SDC_DataGenerator: [I] E2S Data Generation process completed
E2S LOG: 2008-05-13 16:09:52 SDC_DataGenerator: [I] E2S Data Generation simulation of scenario Test_TN3_1_0001 complete
E2S PYLOG: PROGRESS: processing complete, and all outputs verified
E2S PYLOG: INFO : runtime was: 1348.0333879 seconds
E2S_DL PYLOG: PROGRESS: Running processor: E2S_DL
E2S_DL PYLOG: INFO : dir exists and seems ok: E2S_Runtime_2.06/scenarios/Test_TN3_1_0001
E2S_DL PYLOG: INFO : creating dir: E2S_Runtime_2.06/scenarios/Test_TN3_1_0001/aispProduct
E2S_DL PYLOG: INFO : Copied: E2S_Runtime_2.06/catalog/system.cat to: E2S_Runtime_2.06/scenarios/Test_TN3_1_0001/system.cat
E2S_DL PYLOG: WARNING : overwriting file: E2S_Runtime_2.06/scenarios/Test_TN3_1_0001/Test_TN3_1_0001.xml.orig with: E2S_Runtime_2.06/scenarios/Test_TN3_1_0001/Test_TN3_1_0001.xml
E2S_DL PYLOG: INFO : Copied: E2S_Runtime_2.06/scenarios/Test_TN3_1_0001/Test_TN3_1_0001.xml to: E2S_Runtime_2.06/scenarios/Test_TN3_1_0001/Test_TN3_1_0001/Test_TN3_1_0001.xml
E2S_DL PYLOG: INFO : loading file: E2S_Runtime_2.06/scenarios/Test_TN3_1_0001/Test_TN3_1_0001.xml
    
```

# E2S-L1B-L2B script: gui

displaying logfile



python logfile from script Run\_E2S\_L1B\_L2B

Close

```

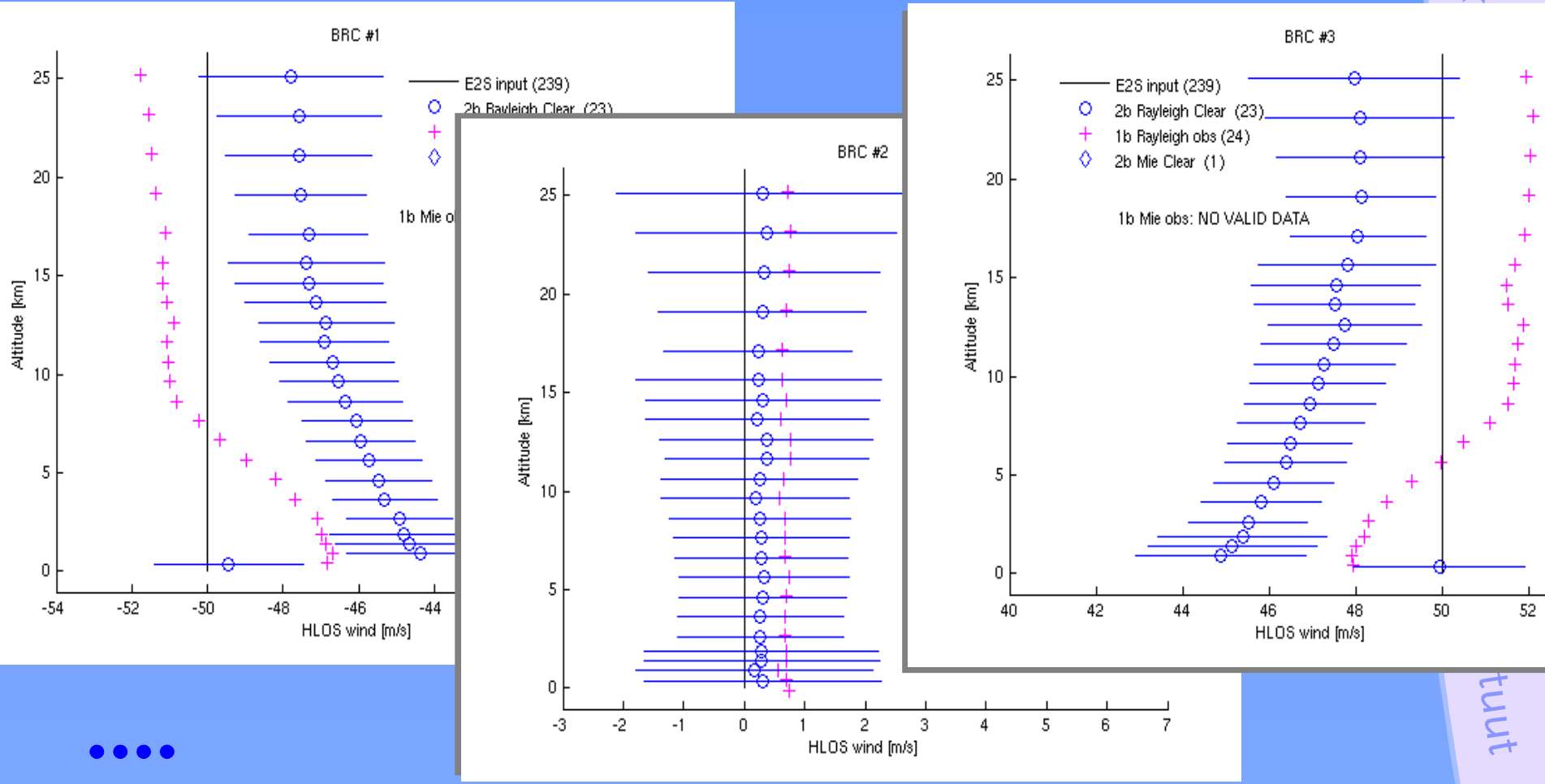
Matlab Plotting Tool PYLOG: INFO : Copied: Matlab_Plotting_Tools_1.53/ReadL2BLoop.m to: Matlab_Plotting_Tools_1.53/working/Test_TN3_1_0001/ReadL2BLoop.m
Matlab Plotting Tool PYLOG: INFO : Created symbolic link from: /nobackup/users/matlab/ChainScriptTest/Matlab_Plotting_Tools_1.53/ReadBinaryData.m to: /nobackup/users/m
Matlab Plotting Tool PYLOG: INFO : Created symbolic link from: /nobackup/users/matlab/ChainScriptTest/Matlab_Plotting_Tools_1.53/ReadE2SDData.m to: /nobackup/users/matlab
Matlab Plotting Tool PYLOG: INFO : Created symbolic link from: /nobackup/users/matlab/ChainScriptTest/Matlab_Plotting_Tools_1.53/nanmean.m to: /nobackup/users/matlab/Cf
Matlab Plotting Tool PYLOG: INFO : Created symbolic link from: /nobackup/users/matlab/ChainScriptTest/Matlab_Plotting_Tools_1.53/nanstd.m to: /nobackup/users/matlab/Chai
Matlab Plotting Tool PYLOG: INFO : Created symbolic link from: /nobackup/users/matlab/ChainScriptTest/Matlab_Plotting_Tools_1.53/print_dist.m to: /nobackup/users/matlab/Ch
Matlab Plotting Tool PYLOG: INFO : Created symbolic link from: /nobackup/users/matlab/ChainScriptTest/Matlab_Plotting_Tools_1.53/gui_102.m to: /nobackup/users/matlab/Ch
Matlab Plotting Tool PYLOG: INFO : Created symbolic link from: /nobackup/users/matlab/ChainScriptTest/Matlab_Plotting_Tools_1.53/gui_102.fig to: /nobackup/users/matlab/Ch
Matlab Plotting Tool PYLOG: INFO : Created symbolic link from: /nobackup/users/matlab/ChainScriptTest/MatlabVerificationTool/VerifyWinds.m to: /nobackup/users/matlab/Chair
Matlab Plotting Tool PYLOG: INFO : Created symbolic link from: /nobackup/users/matlab/ChainScriptTest/MatlabVerificationTool/myinterp.m to: /nobackup/users/matlab/ChainSc
Matlab Plotting Tool PYLOG: INFO : Copied: Matlab_Plotting_Tools_1.53/working/Test_TN3_1_0001/Set_PlotConfig.m to: Matlab_Plotting_Tools_1.53/working/Test_TN3_1_0
Matlab Plotting Tool PYLOG: INFO : loading file: Matlab_Plotting_Tools_1.53/working/Test_TN3_1_0001/Set_PlotConfig.m
Matlab Plotting Tool PYLOG: INFO : modifying file: Matlab_Plotting_Tools_1.53/working/Test_TN3_1_0001/Set_PlotConfig.m
Matlab Plotting Tool PYLOG: INFO : writing file: Matlab_Plotting_Tools_1.53/working/Test_TN3_1_0001/Set_PlotConfig.m
Matlab Plotting Tool PYLOG: INFO : Copied: Matlab_Plotting_Tools_1.53/working/Test_TN3_1_0001/ReadL2BLoop.m to: Matlab_Plotting_Tools_1.53/working/Test_TN3_1_0C
Matlab Plotting Tool PYLOG: INFO : loading file: Matlab_Plotting_Tools_1.53/working/Test_TN3_1_0001/ReadL2BLoop.m
Matlab Plotting Tool PYLOG: INFO : modifying file: Matlab_Plotting_Tools_1.53/working/Test_TN3_1_0001/ReadL2BLoop.m
Matlab Plotting Tool PYLOG: INFO : writing file: Matlab_Plotting_Tools_1.53/working/Test_TN3_1_0001/ReadL2BLoop.m
Matlab Plotting Tool PYLOG: INFO : Created symbolic link from: /opt/matlab71/bin/matlab to: /nobackup/users/matlab/ChainScriptTest/Matlab_Plotting_Tools_1.53/working/Test_
Matlab Plotting Tool PYLOG: PROGRESS: spawning executable: ./matlab with arguments: <matlab_plottool.m
Matlab Plotting Tool PYLOG: PROGRESS: processing complete, and all outputs verified
Matlab Plotting Tool PYLOG: INFO : runtime was: 93.4450371265 seconds

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processing chain ended successfully

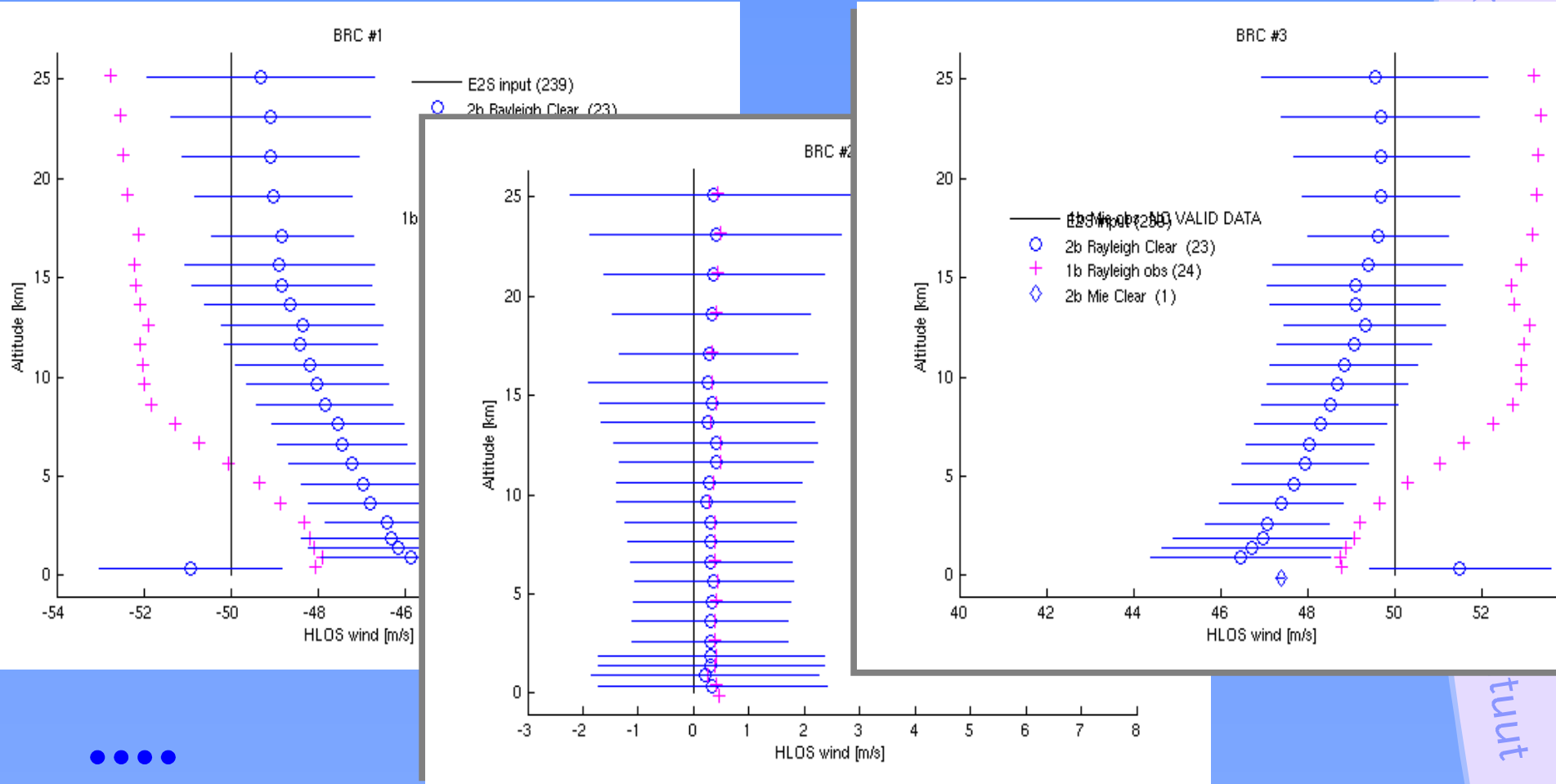
APC: elapsed time = 0.006 [s]
E2S: elapsed time = 1348.033 [s] which equals: 22 [minutes] 28.033 [seconds]
E2S_DL: elapsed time = 2.055 [s]
L0: elapsed time = 2.729 [s]
L1A: elapsed time = 5.124 [s]
L1B: elapsed time = 1.157 [s]
ADB2AM: elapsed time = 1.034 [s]
L2B: elapsed time = 42.994 [s]
MPT: elapsed time = 93.445 [s] which equals: 1 [minutes] 33.445 [seconds]

Total running time = 1496.577 [s] which equals: 24 [minutes] 56.577 [seconds]
        
```

# E2S-L1B-L2B script: results L1B v1.10



# E2S-L1B-L2B script: results L1B v1.07



## E2S-L1B-L2B script: conclusion

- Test case #001 does not meet its pass/fail criteria as defined in TN 3.1
- To reproduce the tests documented in TN 3.1, I need some more data:
  - exact versions of all software used in the chain
  - exact names and versions of calibration files used, both L1B (MRC, RRC) and L2B (RBC)
  - exact names of all non-default files used (range bin definition?)
  - exact name of atmospheric scene used as input



# The end

- questions ?

