

We have discovered an error in 3 of the files produced for the CrIS simulation test-bed. Please refer to the document "Simulation of CrIS Radiances" for a general explanation of the dataset. The error is a print problem and can be easily corrected by the users of the data. The 3 files which require correction are:

```
./src/writ_output.F  
./output/tru_88_3.asc  
./output/tru_test_3.asc
```

The error stems from two lines in writ\_output.F and these two lines (line # 283,284) need to be deleted. They are

```
freqemis(1) = 500.0  
freqemis(4) = 3333.0
```

This error overwrote the frequency hinge points in the level.2 output files (./output/tru\_88\_3.asc and ./output/tru\_test\_3.asc) when the radiances were generated. The radiances provided in ./output were calculated correctly (since simrad.f used ./data/noaa88.asc) using the following hinge points for all profiles in the level.2 files

```
freqemis(1) = 769.0 <-- corrupted by writ_output.F  
freqemis(2) = 909.0  
freqemis(3) = 1111.0  
  
freqemis(4) = 2105.0 <-- corrupted by writ_output.F  
freqemis(5) = 2500.0  
freqemis(6) = 2857.0  
freqemis(7) = 3333.0
```

Overwriting the first hinge point does not cause any changes in the forward computation or level.1 radiance dataset since value of the emissivities and reflectivities in these level.2 files are constant below 1900 wavenumbers (that is the values associated with freqemis(1), freqemis(2), and freqemis(3) are all equal, see level.2 file(s) and getemis1()).

The use of the corrupted level.2 files would cause severe problems with the vendor's forward computation because the interpolation of emissivities and reflectivities to specific channels would be in error in the range of 1111 to 3333 wavenumbers (for example, when using subroutine getemis1()).

There are 2 possible way to fix the errors in the level.2 files provided in this dataset.

1) In any code the vendors develop they should modify the hinge points prior to calling getemis1(). The simplest way to do this is to modify the hinge points within the subroutine ./src/readl2.f.

In ./src/readl2.f

replace lines 143 and 144

```
end if  
if ( iprt .gt. 2 ) then
```

with

```
end if
```

```
if(nemis.eq.7.and.freqemis(4).eq.3333.0) then ! fix original
```

```
OATS
      freqemis(1) = 769.0          ! dataset
12/11/97
      freqemis(4) = 2105.0
      endif

      if ( iprt .gt. 2 ) then
```

This change will be transparent to level.2 files which are generated properly and is much simpler than editing or re-generating the level.2 file itself.

2) Alternatively, the vendor could reproduce the level.2 files after the writ\_output.F changes are compiled. Running this program for the complete ensemble takes about 4 hours on a typical workstation and would over-write the radiance file(s) in addition to the level.2 file(s). We do not recommend this method unless the vendor is confident with the operation of the simrad.f program.

NOTE: Any level.1 or level.2 files created by the vendor using the corrected writ\_output subroutine would not require the correction method #1.