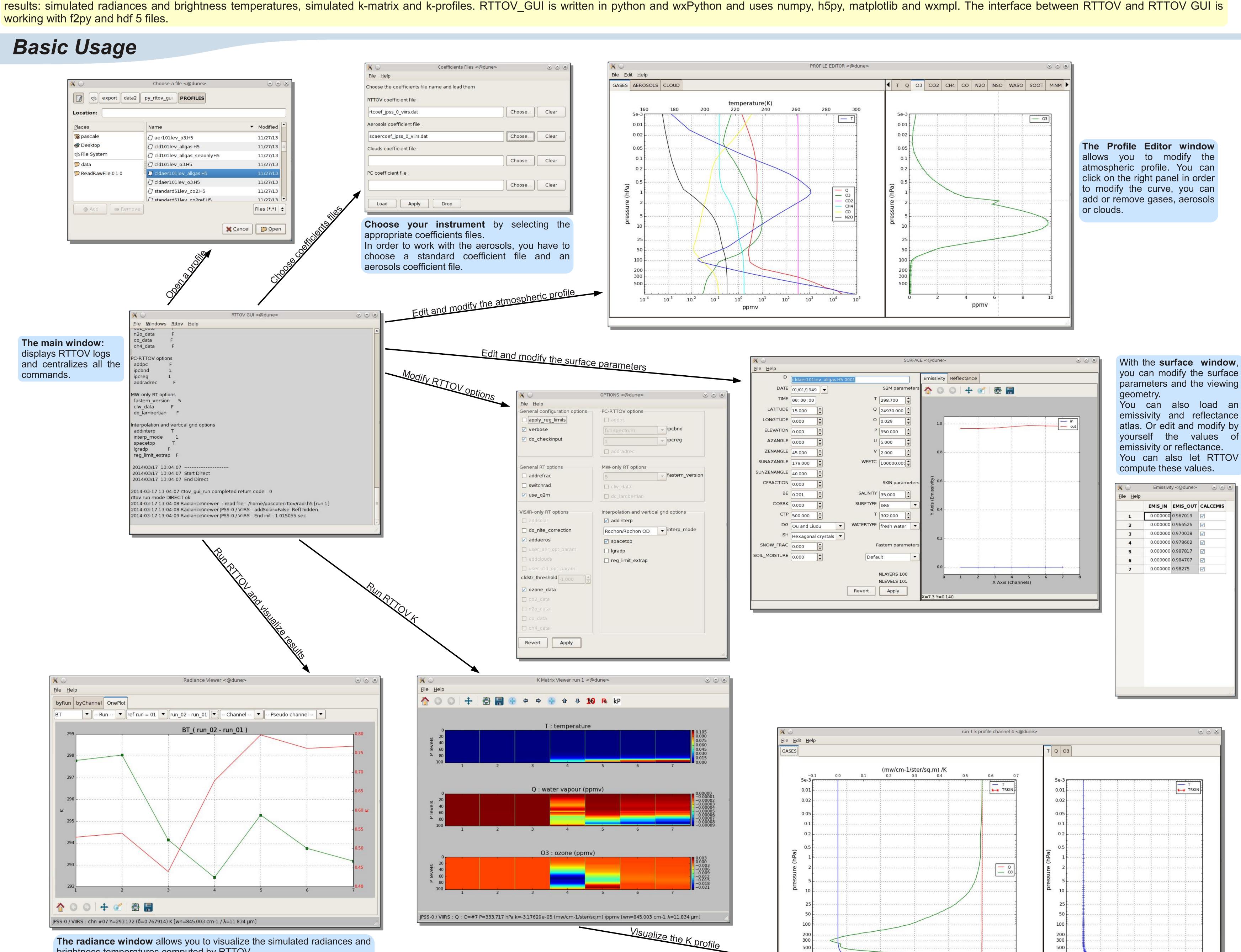
A Graphical User Interface for RTTOV

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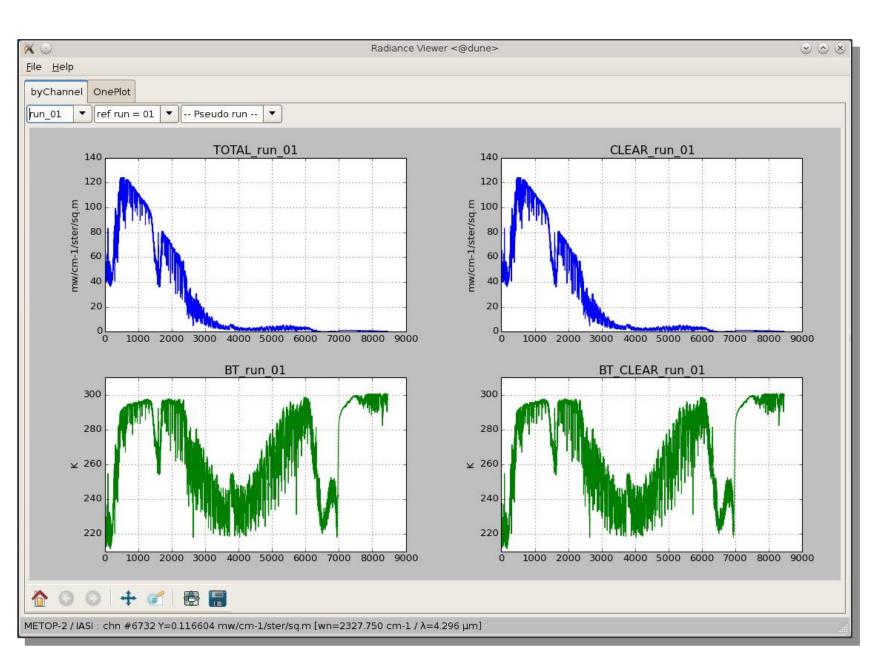
The Radiative Transfer Model RTTOV has a graphical user interface. RTTOV and to visualise its results. The purpose is to allow RTTOV users to experiment and to discover the functionalities of this model. The user can edit and modify an atmospheric profile, change the values of the surface parameters and the viewing geometry, run the direct RTTOV model or the K RTTOV model and visualize the results: simulated radiances and brightness temperatures, simulated k-matrix and k-profiles. RTTOV_GUI is written in python and wxPython and wxPytho



Working with Hyperspectral Instruments

The radiance window allows you to visualize the simulated radiances and

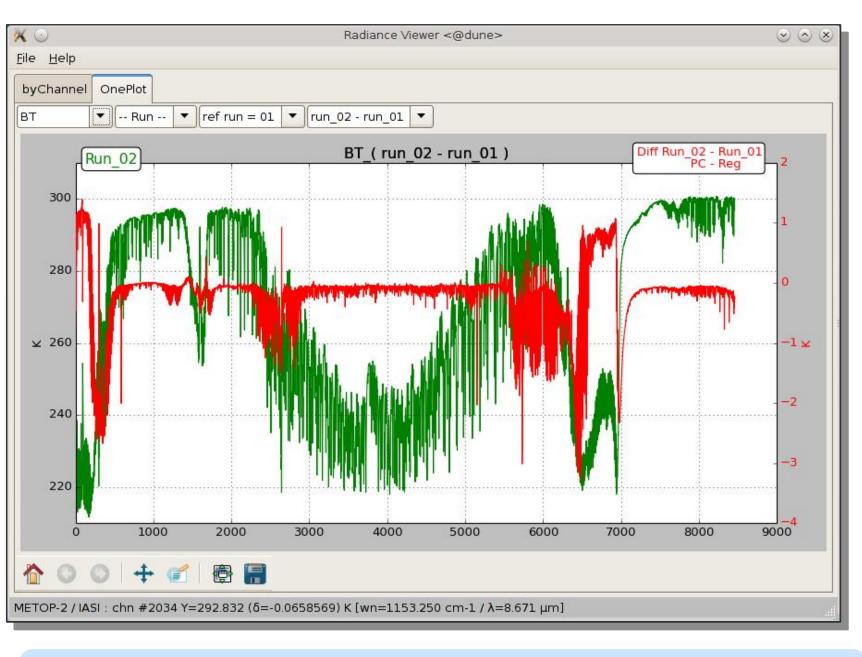
First run with aerosols taken into account, second run without the aerosols.



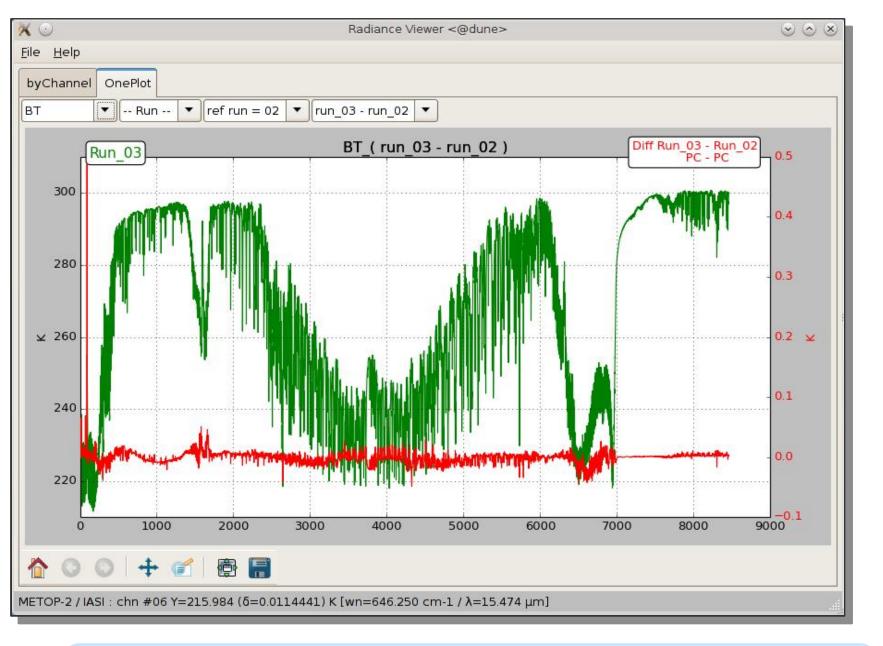
brightness temperatures computed by RTTOV.

In this example, the difference between two runs is shown.

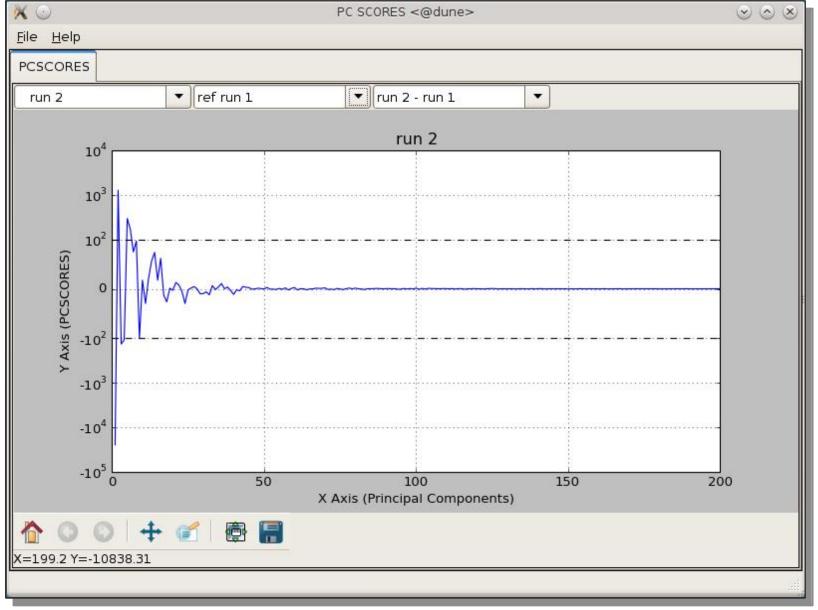
First run: Run RTTOV Direct with IASI.



Second run: Run RTTOV Direct PC with reconstructed radiances and brightness temperatures with 300 predictors. Visualize differences in BT between run 1 and 2.



Third run: Run RTTOV Direct PC with reconstructed radiances and brightness temperatures but with 600 predictors: Visualize differences in BT between run 3 and 2.

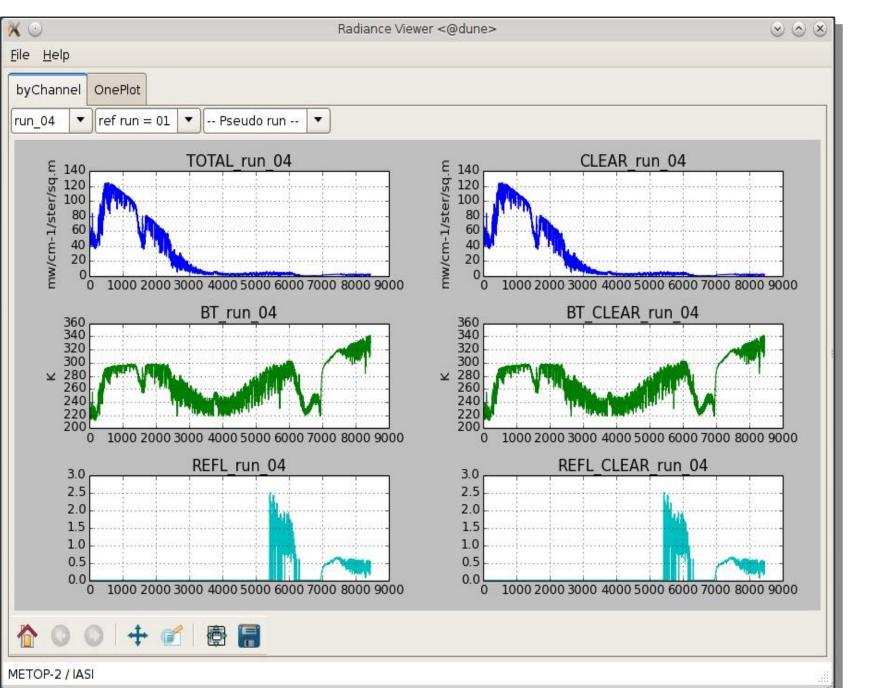


0.2 0.3 0.4 0.5

(mw/cm-1/ster/sq.m) /K

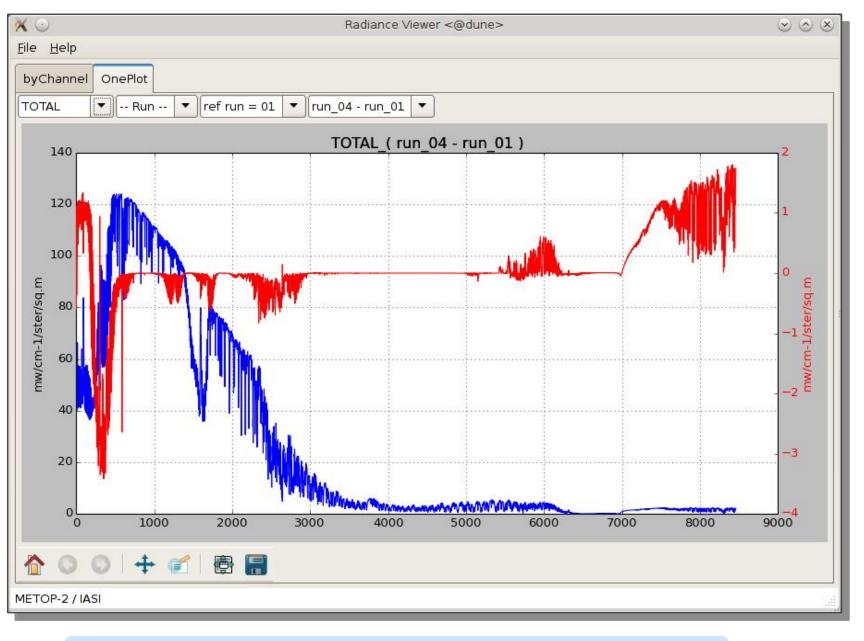
The PCSCORE window appears when RTTOV PC Direct is run.

umber of K PC Profiles to show:

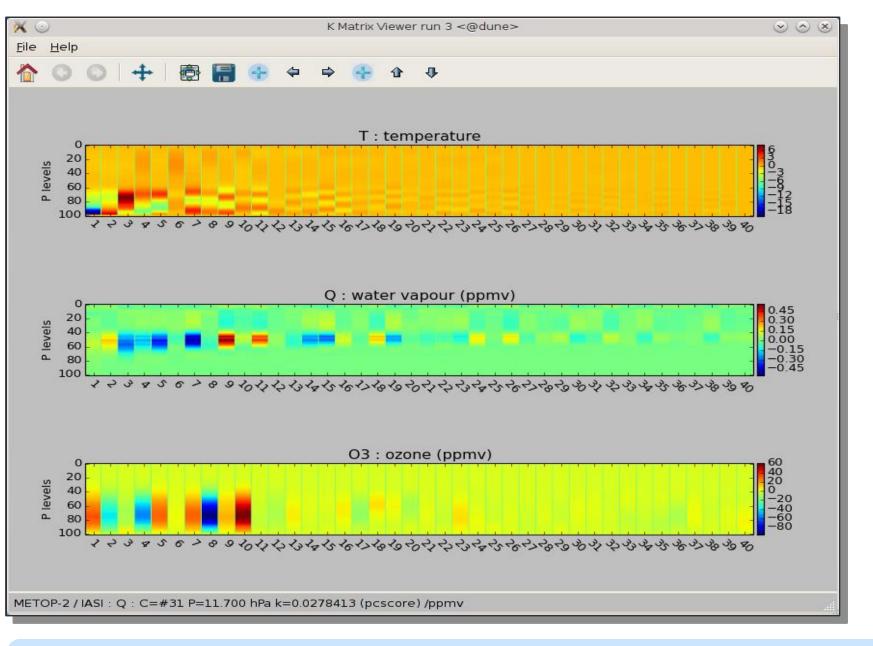


Run 4: Run RTTOV Direct with addsolar option :

The radiance window displays now the simulated reflectances.



Run 4: select "One Plot", run_04 – run_01, to visualize the impact of the addsolar option.



skin PC2: 123.537 tskin PC5: 55.8142 skin PC15: 5.19846 skin PC16: 13.154 tskin PC20: -0.830392 skin PC24: -2.85604 tskin PC25: -0.00412031 skin PC26: -0.681971 skin PC27: 0.551863 skin PC28: 3.28677 tskin PC29: -1.25139 tskin PC30: -1.10207

Run RTTOV K PC: the K PC matrix is shown as well as the K PC profiles: you can visualize for example the temperature profile for the first ten Principal Components.

<u>File Edit H</u>elp

(mw/cm-1/ster/sq.m) /ppmv

