

EGEE Astrophysics: ESA Planck Mission

Porting of IFCA applications to the GRID: current status

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Orsay, 10-06-2008

- Point Source Detection
- SZ Clusters Detection
- Non-Gaussianity

Point Source Detection Algorithms:

- Porting of the version 1.0 of the algorithm to the GRID finished in Nov/Dic 2007.
- The code was tested using realistic simulations of the version 1.3 of the Planck Sky Model.
- After testing, the code was integrated in the Low Frequency Instrument Data Processing Center (LFI DPC) in Trieste.
- In Februar/March/April 2008 the code has been tested using a new set of simulations, where the map-making procedure has been simulated as well. A new version of the Planck Sky Model was used as well.

Doing the analysis of this simulations some problems arised in the vicinity of bright compact sources that introduced spurious detections. This issue Has been solved and a new version of the code has been tested.

The latest version of the code has been installed in the Trieste LFI DPC and it will be used in the near future for the end-to-end tests of the data reduction pipeline.

Detection of SZ Clusters

- In december 2007 the first version of the Matched Multifilter algorithm used to Detect SZ clusters was ported to the GRID and tested using the simulations Prepared within the Planck working groups to test the component separation Algorithms of the different groups.
- In February/March this algorithm has been used on a different set of more Realistic simulations within an exercise of the Trieste LFI DPC to construct a Pipeline to do the component separation.
- In April/May/June this algorithm is being tested on the latest set of realistic Simulations, where the mapmaking has been simulated.

In total, this algorithm has been used to do the analysis of three different data Sets, and for each one of them, the analysis had to be repeated several times.

The estimated number of CPU hours used in total is aprox. 15.000.

We are working on increasing the performance and efficiency of the code...
work in progress!

Non-Gaussianity: porting in progress

- The IFCA group is planning to port to the GRID three algorithms to detect non-gaussianity in maps of the CMB.

These algorithms are:

- .- Spherical Mexican Hat Wavelet
- .- Minkowski functionals
- .- Scalars on the sphere

Some of this codes have been ported to the LFI DPC, but still need to be Tested with simulations.