

# EGEE AA cluster

The current status

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## A&A advantages

- A&A community, now sparse across other VOs, is brought together under a unique, A&A dedicated, VO.
- A&A applications that are continuously growing in complexity and whose demands in terms of resources are becoming extremely challenging can count on a rich variety of shared resources.
- A&A applications often do not only need computational power and conventional data storage but also advanced functionalities like access to astronomical databases and remote monitoring and control of astrophysical applications; such functionalities can be found in EGEE.
- A&A users often don't know how to approach the gridification process of their applications. The creation of an A&A cluster has the great advantage of creating a network of users who exchange information and experiences in successfully approaching this task. Some man-power support is mainly expected by EGEE in this case, necessary to allow A&A users to acquire the necessary expertise in porting their applications to the Grid.



## EGEE advantages

- EGEE can include a wide and motivated community of users.
- Because a large set of A&A applications is quite challenging in terms of computational and data storage resources, they are an excellent test-bed for the Grid infrastructures hosting them.
- A&A community is heavily engaged in the process of modifying some components of the Grid middleware to add new functionalities requested by A&A applications and EGEE is the main target infrastructure where to port this enriched Grid middleware. Other communities therefore could be interested in and take advantage of these advanced functionalities.

- Currently coordinated by INAF (Italy)
- The main document of the AA cluster:  
“Proposal for the Creation and Development of the Astronomy and Astrophysics (A&A) Cluster in EGEE-III”  
whose latest version is 2.1
  - It is a living document that will accompany and will constantly reflect the evolution of the cluster.
  - This document illustrates the cluster composition in terms of:
    - Partners
    - Allocated resources
    - Applications ported on the EGEE infrastructure



Italy Federation – 25 PM	
<b>Simulation of the Planck mission</b>	<b>G. Taffoni, INAF-Trieste (IT)</b>
<b>Galaxy Formation at High-redshift: Quantifying Black Holes' feedback on the evolution of the visible Universe</b>	<b>U. Becciani, INAF-Catania (IT)</b>
<b>The BaSTI Database</b>	<b>S. Cassisi, INAF-Teramo (IT)</b>
DECH Federation – 21 PM	
<b>Magic</b>	<b>H. Kornmayer, FZK (DE)</b>
<b>g-Eclipse</b>	<b>H. Kornmayer, FZK (DE)</b>



Central Europe (CE) Federation – 23 PM

**SWIFT**

**L. Hluchý, SAS (SK)**

**Refinement of the cosmological scenario of the solar-system formation**

**Explanation of the observed structures of meteoroid streams via simulations of their dynamical evolution**

**Solving the problem of the migration of comets and asteroids in the solar system**

**Dynamical evolution of irregularly shaped and composite cosmic dust particles**

**Porting to the Grid of different hydrodynamic simulations**

**M. Lechner, UIBK (AT)**



France Federation – 12 PM	
Analysis of spectral surveys from the HERSCHEL/ALMA Missions	M.L Dubernet, OBSP (FR) P. Valiron, OBG (FR)
Porting to the Grid of applications being part of the Horizon Project	F. Combes, OBSP (FR) H. Wozniak, OBSL (FR) J.M. Alimi, OBSP (FR)
Theoretical and applied celestial mechanics related to the motion and dynamical behaviour of various objects of the Solar System	V. Lainey, OBSP (FR) J. Lecubin, OBSP (FR) W. Thuillot, OBSP (FR)
Restoration of images by ondelettes, with or without consideration of the individual objects	A. Schaaff, OBSS (FR)



South West Europe (SWE) Federation – 18 PM

**Extragalactic compact source detection and Gaussianity analysis of Planck data**

**E. Martinez-Gonzalez, IFCA (ES)**

South East Europe (SEE) Federation – 6 PM

**Full porting to the Grid of the OrbFit application**

**A. Belic, IPB (YU)**





## A new EGEE VO (Virtual Organization) for Astrophysics

- The new VO (Virtual Organization) [astro.vo.eu-egee.org](http://astro.vo.eu-egee.org) was created in EGEE in June 2007.

## Other main topics of interest within the new EGEE-III A&A cluster

- Grid and the **Virtual Observatory**, in coordination with the EU/FP6 VO-DCA project.
- Selection of a pool of typical applications in order to produce good **demonstrators** trying in this way to overcome the psychological barriers that prevent the adoption of Grid technology.
- Intensive **test activity** to verify whether developed tools and services really meet the A&A application requests. Test campaign extended also **outside the A&A cluster**



14:00 - 14:10	Current status of the A&A cluster	C. Vuerli
14:10 - 14:25	French projects and current status	M.L. Dubernet
14:25 - 14:40	Support of Astrophysical applications in Slovakia	Hluchy, Astalos, Tran
14:40 - 14:55	Activities in progress ad IFCA and examples of applications	M. Lopez-Caniego
14:55 - 15:10	Italian Projects and current Status	C. Vuerli
15:10 - 15:30	<b>A&amp;A cluster in EGEE: Future developments and perspectives</b>	All



*End of Presentation*  
**Thank you for your attention**