

Be Elegant on the Grid

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ELETTRA is now building a new light source FERMI@Elettra which is a single-pass FEL user-facility covering the wavelength range from 100 nm (12 eV) to 10 nm (124 eV). The advent of femtosecond lasers has revolutionized many areas of science from solid state physics to biology. This new research frontier of ultra-fast VUV and X-ray science drives the development of a novel source for the generation of femtosecond pulses.

ELETTRA is a large data producer. As a partner of EGEE ELETTRA is representing the new community of light sources. In this work we describe the use case of initiating this new community to the eInfrastructure and in particular the case of Elegant, an application program used to design the new light source FERMI@Elettra.

3. Impact

Being this a new community a special care have to be put on making the path easier to the Grid newcomer. In order to meet this requirement we selected carefully a set of key applications to be ported and deployed a Grid portal called Virtual Control Room (VCR).

The first application selected was Elegant which is the typical application with high throughput computing requirements and which greatly benefits the possibility to run parametric jobs.

Users log in the portal which hides the complex details of the Grid. The portal first provides all the information needed to use the Grid and then simplifies access to all the resources in the VO and in particular the WMS and the LFC. The user just submit the job and download and visualize the results.

URL for further information:

<http://www.elettra.trieste.it>,
<https://ligths-vcr.grid.elettra.trieste.it>

4. Conclusions / Future plans

The received feedback by the users of Elegant was enthusiastic. The experience gained will be reused in porting the rest of key applications and will pave the way to the involvement of the other light sources in the Grid world.

Provide a set of generic keywords that define your contribution (e.g. Data Management, Workflows, High Energy Physics)

Synchrotron, Light Sources, Simulations, Grid Portals

1. Short overview

ELETTRA is a multidisciplinary Synchrotron Light Laboratory in the AREA Science Park of Trieste. ELETTRA is open to researchers in diverse basic and applied fields. The laboratory is equipped with ultra-bright light sources in the spectral range from UV to X-rays and offers a stimulating and competitive environment to researchers from all over the world.

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