**e-infrastructure for FAIR**

**Kilian SCHWARZ & Peter MALZACHER**

GSI Darmstadt, DE

The particle accelerator complex FAIR (Facility for Antiproton and Ion Research) in Darmstadt, Germany is one of the largest research projects in Germany.

3000 scientists are expected to carry out experiments at FAIR each year. After multi-annual planning and preparation civil construction is expected to start in 2010. The first beam is expected in 2015/16. FAIR will serve about 20 scientific collaborations from four major fields of research and applications. The computing and storage requirements for FAIR are expected to be about an order of magnitude higher than the requirements of the LHC experiments.

In the long run FAIR has to become an e-infrastructure. On shorter terms the construction of FAIR must be accompanied by a raised level of e-infrastructure awareness and usage. It is important to closely cooperate with WLCG. PANDA (Proton Antiproton Darmstadt) and CBM (Compressed Baryonic Matters) have already started using the grid for detector simulations.

Especially PandaGrid consists of already 15 Grid sites distributed mainly over the European continent, but including also a few associated sites in the Philippines. The functionality has been proven in 3 large Data Challenges since 2008. PandaGrid is practically the first up-and-running “installation” of the PANDA experiment. It provides the computing infrastructure for large scale simulations, distributed data analysis including automatic distribution of the PANDA simulation and analysis framework (PandaRoot) as well as data storage.

PandaGrid is based on the AliEn middleware which has been developed by the ALICE collaboration at CERN.