



**of the European Atomic Energy Community (Euratom)
for nuclear research and training activities (2007-2011)**

Coordination and Support Action

<i>ERINDA</i>

Project title:	ERINDA – European Research Infrastructures for Nuclear Data Applications
Project number:	269499
Project homepage:	http://www.erinda.org/
Project coordinator:	Helmholtz-Zentrum Dresden - Rossendorf e.V., Dresden, Germany
HZDR participant:	Institute of Radiation Physics
Starting date:	01.12.2010
Duration (months):	36

Summary

Different concepts involving critical (fast) reactors or subcritical accelerator-driven systems are being studied in view of their transmutation capabilities. These design studies imply high demands on the underlying nuclear database. The need for improved nuclear data has been expressed in the Strategic Research Agenda of the SNE-TP (Sustainable Nuclear Energy Technology Platform).

The accurate knowledge of neutron and proton induced nuclear reactions in the fast, intermediate- and high- energy domains ($E_n = 1 \text{ keV}$ to 500 MeV) is of crucial importance for predicting the capabilities of reducing the inventory of plutonium, minor actinides, and long-lived fission products. In the past, this energy domain was not investigated with high priority because of minor importance for conventional light-water reactors. An additional challenge is the tightening demand on the accuracy of the data, especially for assessing criticality safety aspects and designing fuels for very high burn-up.

The ERINDA project aims for a coordination of European efforts to exploit up-to-date neutron beam technology for novel research on advanced concepts for nuclear fission reactors and the transmutation of radioactive waste. Such waste is already existing in appreciable quantity due to the year-long operation of existing nuclear reactors and it will eventually also be generated during the running of new reactor types – albeit they can be optimized to produce much less of it. Research to the aim of finding techniques optimized for a strong reduction of nuclear waste can already be performed at existing nuclear facilities from the consortium proposed in this proposal.

The main objective is to provide adequate transnational access to the infrastructures. The consortium will also provide funding for scientific support of experiments by short term visits of scientist to the participating facilities and foster the communication and dissemination of the results by organizing scientific workshops.