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E-Science Centre with EGI resources for the Plasmasphere, Ionosphere and Thermosphere research community

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PITHIA-NRF (Plasmasphere Ionosphere Thermosphere Integrated Research Environment and Access services: a Network of Research Facilities) is a project funded by the European Commission's H2020 Programme to build a distributed network of observing facilities, data processing tools and prediction models dedicated to ionosphere, thermosphere and plasmasphere research. One of the core components of PITHIA-NRF is the PITHIA e-Science Centre that supports access to distributed data resources and facilitates the execution of various models on local infrastructures and remote cloud computing resources. The University of Westminster team, together with EGI is responsible for the development of the e-Science Centre within the project. Resources in the e-Science Centre are registered using a rich set of metadata that is based on the ISO 19156 standard on Observations and Measurements (O&M), and specifically augmented and tailored for the requirements of space physics. When it comes to the execution of Models, the PITHIA e-Science Centre supports three main types of model execution and access scenarios: models can be executed on resources of the various PITHIA nodes, can be deployed and executed on EGI cloud computing resources, or can also be downloaded and executed on the users' own resources. This presentation will report on the current state of the development work, after the first year of the project and will also outline the development roadmap. A first prototype of the e-Science Centre is now available supporting resource registration and ontology-based search functionalities. Additionally, proof of concepts of the various execution mechanisms have also been implemented.

Any relevant links

<https://pithia-nrf.eu/>

Topic

EOSC Compute Platform

Primary authors: KISS, Tamas (University of Westminster, London, UK); Dr PIERANTONI, Gabriele (University of Westminster); Mr CHAN YOU FEE, David (University of Westminster); Mr DIMITRIS, Kagalidis (University of Westminster); Dr ANNA, Belehaki (NOA); Dr IVAN, Galkin (Bolearis Global Design); CHEN, Yin (EGI.eu); FARKAS, Levente

Presenter: KISS, Tamas (University of Westminster, London, UK)

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