

# PITHIA-NRF 2nd TNA Users Meeting

## "Questions to selected PITHIA-NRF TNA users"

### A. On the nodes operation

**A.1** Do you agree with the following sentence?

- Each node has unique strengths. At the same time on-line services provided either locally or centralised through the e-Science Centre ensure interoperability and data synchronisation across the network.

**A.2** Do you agree with the following sentence?

- Exchange of data between nodes for collaborative experiments is enabled.

**A.3** Do you agree with the following sentence?

- Near real-time data exchange is partially implemented in some nodes, mainly through the e-Science Centre but also during hands-on TNA projects, allowing the user to access the data as they are generated by the instrument. As a future development, near real-time exchange is recommended to become a standard functionality for all the nodes.

**A.4** Does the type of instrumentation operated by the nodes cover the needs of your scientific projects for thermosphere, ionosphere and plasmasphere studies? Which additional instruments would you like to see accessible through PITHIA-NRF nodes?

**A.5** Does the data processing tools offered by the nodes cover your requirements? Would you recommend to put more emphasis on:

- ground-based data?
- space born data?
- collocation and conjunction tools?
- other?



**A.6** Would it be useful for your activities to suggest the organisation of special observing campaigns based on the instrumentation operated in the nodes? Please provide any specific ideas combining multi-instruments from multi-locations for a specific experiment.

**A.7** Are more instruments required for the implementation of special observing campaigns (static or mobile such as mobile magnetometers or GNSS receivers)?

**A.8** Could the Network of Research Facilities become the testbed for joint campaigns with academia and industry, to test new sensors, data analysis pipelines, or cross-layer coupling hypothesis?

## B. On the e-Science Centre operation

**B.1** Considering that this first version of the e-Science Centre puts the emphasis on the FAIRness, where the focus should be in future developments?

- Central data quick visualization environment.
- Predictive modeling tools to anticipate phenomena like anomalies and disturbances.
- Machine learning workflows and toolkits (e.g. notebooks, preprocessed datasets).
- AI-ready benchmark datasets (annotated, cleaned, labeled).
- Real-time usage of stats, and data summaries for easier exploration.
- Custom dashboards by user type (student, researcher, data scientist).

Please comment on the suggested developments and/or provide additional recommendations.

## C. On central PITHIA-NRF activities

**C.1** Considering that physical access time to the nodes can be limiting, which possible enhancements would you see to be useful (e.g. improving access options, allowing longer access periods, allowing multiple access periods for the same TNA project, ...)?



**C.2** Would you consider as useful enhancements to the TNA activities the possibility provided to the user:

(a) to access complimentary data sets and results (reports) from previous campaigns by other users?

(b) to share projects with other TNA applicants who may have similar or complimentary objectives?

**C.3** Do you need more general or theoretical training and information regarding instruments and models offered by the PITHIA TNA nodes in order to discover tools useful for you research? Do you or your students plan to participate in future summer schools, training workshops?

