

Similar projects

Open UNiverse

[Open UNiverse](#)

is an initiative under the auspices of COPUOS/UNOOSA for expanding availability of and accessibility to open space science data in the fields of

- Astronomy-Cosmology
- Planetary Science
- Cosmic Rays
- Atmospheric Physics -TGF

Cyberhubs

<https://arxiv.org/abs/1802.02233>

Collaborations in astronomy and astrophysics are faced with numerous cyber infrastructure challenges, such as large data sets, the need to combine heterogeneous data sets, and the challenge to effectively collaborate on those large, heterogeneous data sets with significant processing requirements and complex science software tools. The cyberhubs system is an easy-to-deploy package for small to medium-sized collaborations based on the Jupyter and Docker technology, that allows web-browser enabled, remote, interactive analytic access to shared data. It offers an initial step to address these challenges. The features and deployment steps of the system are described, as well as the requirements collection through an account of the different approaches to data structuring, handling and available analytic tools for the NuGrid and PPMstar collaborations. NuGrid is an international collaboration that creates stellar evolution and explosion physics and nucleosynthesis simulation data. The PPMstar collaboration performs large-scale 3D stellar hydrodynamics simulation of interior convection in the late phases of stellar evolution. Examples of science that is presently performed on cyberhubs, in the areas 3D stellar hydrodynamic simulations, stellar evolution and nucleosynthesis and Galactic chemical evolution, are presented.

CERN VM FS

[CernVM File System \(CernVM-FS\)](#)

The CernVM File System provides a scalable, reliable and low-maintenance software distribution service. It was developed to assist High Energy Physics (HEP) collaborations to deploy software on the worldwide-distributed computing infrastructure used to run data processing applications. CernVM-FS is implemented as a POSIX read-only file system in user space (a FUSE (link is external) module). Files and directories are hosted on standard web servers and mounted in the universal namespace /cvmfs.

Astroserver - Research Services in the Stellar Webshop

[Astroserver](#)

The main goal of the Astroserver Team is to provide precise and reliable measurements of stellar atmospheric parameters in a consistent way across the Hertzsprung-Russell Diagram and make it accessible to everyone. The accuracy of these solutions depends on the choice of the model, the quality of input atomic data and observations. Therefore, our Team continuously improves the models and revise the atomic data input by analyzing high quality observations of standard objects. Beyond the main mission the Team is also keen on finding solutions to challenging problems on the frontiers of applied stellar spectroscopy.

Rucio

[Rucio.](#)

Rucio is a project that provides services and associated libraries for allowing scientific collaborations to manage large volumes of data spread across facilities at multiple institutions and organisations. Rucio has been developed by the ATLAS. experiment. It offers advanced features, is highly scalable and modular. Rucio is a data management solution that could cover the needs of different communities in the scientific domain (e.g., HEP, astronomy, biology).

CERN OpenData

[CERN OpenData](#)

The CERN Open Data portal is the access point to a growing range of data produced through the research performed at CERN. It disseminates the preserved output from various research activities, including accompanying software and documentation which is needed to understand and analyse the data being shared.

The portal adheres to established global standards in data preservation and Open Science: the products are shared under open licenses; they are issued with a digital object identifier (DOI) to make them citable objects in the scientific discourse (see details below on how to do this).

MODProducer

[MODProducer](#)

MIT Open Data Producer. This package downloads AOD files from the CERN Open Data Portal release and converts them into a human-readable file format called MOD (MIT Open Data).

CERN OpenLab

[openlab](#)

CERN openlab is a unique public-private partnership that accelerates the development of cutting-edge solutions for the worldwide LHC community and wider scientific research. Through CERN openlab, CERN collaborates with leading ICT companies and research institutes.

DHEP

DPHEP

Collaboration for Data Preservation and Long Term Analysis in High Energy Physics

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