Moving Toward Integrated NOIRLab Data Services

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NSF’s NOIRLab/CSDC
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Two paradigm shifting trends...

Research Inclusion through Access
Community Science and Data Center within NOIRLab

CTIO

CSDC

KPNO

Gemini

Rubin
CSDC supports the NOIRLab Data Mission

- CSDC’s role in the NOIRLab mission
  - Collector of community needs/requests/priorities
  - Provide open telescope and data access to the broadest astronomy community
  - Provide user support services and advanced data products for the broad astronomical community
  - Provide leadership in the expanding role of data in science discovery
- Broadening community participation through Research Inclusion is part of everything we do
CSDC Flagship Tools and Services

Provide tools and user services to democratize data and science access
Community Science and Data Center within NOIRLab’s Data Mission
Enable community science with NOIRLab’s archives of wide-field surveys, e.g. DECam community-driven surveys.

Data publication & analysis support
- Gemini GOGREEN survey data products hosted in Astro Data Lab;
- New Gemini data reduction example notebooks from US-NGO team (IRAF, DRAGONS)

New services for survey-scale spectroscopy
- Serving public SDSS optical spectra
- Preparing for 40+ million spectra from DESI
- First DESI data release expected in early 2022

ANTARES: an open-access community event broker operating for ZTF and scalable to Rubin-LSST rate and volume
Modern Web Interfaces

Archives, Time Allocation, User Support Services
Data Product availability and Data Reduction
Online Tutorials for Science Platform and Tools
The Foundation for Science Access Through the 2020s...

NOIRLab through CSDC will be a foundation for Research Inclusion:

- Supporting opportunities for scientific networking and collaboration building
- Providing broad and open access to data and data products
- Continuing to provide technical infrastructure to search petascale data volumes and flexible online science platform analysis
- Expanding and coordinating training for science platform/tools for scientists at all career stages.
THANK YOU!
QUESTIONS?
The Foundation for Science Access Through the 2020s...

Continue Research Inclusion by:

- Reinforcing policies and procedures that support mutually beneficial partnerships
- Supporting opportunities for scientific networking and collaboration building
- Continuing to provide technical infrastructure that enables broad participation
- Expanding and coordinating training for science platform/tools for scientists at all career stages.
7 min (8min max)
AAS #237 Special Session
The Data Lab Science Platform and Open-Data Ecosystem at NSF’s NOIRLab

224.02. Moving Toward Integrated NOIRLab Data Services
Two potentially paradigm-shifting trends are taking place in astronomical research. The first is the move towards the use of surveys, large datasets and catalogs that enable a wide range of topics to be studied. The second is the recognition that the astronomical and astrophysical community of researchers must become more inclusive in order to realize the best scientific innovation and productivity. The NSF’s National Optical and Infrared Research Laboratory has been established to maximize support for both these trends through data services. I will discuss how the Community Science and Data Center (CSDC) at NOIRLab is well positioned to be a foundation for these efforts into the 2020s and beyond.