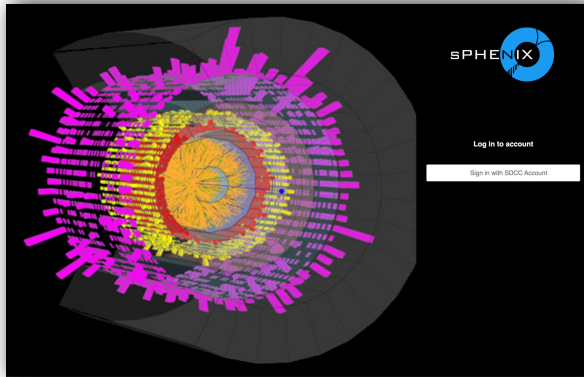


Collaborative Tools for EIC and RHIC InvenioRDM

June 17, 2026

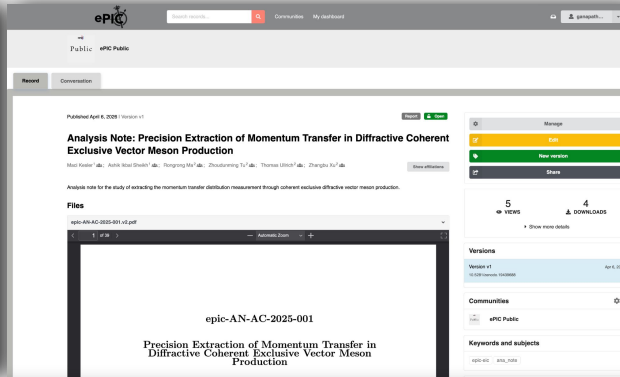
InvenioRDM Instances at BNL



sPHENIX
V11 to V13

Deployed Mid 2023

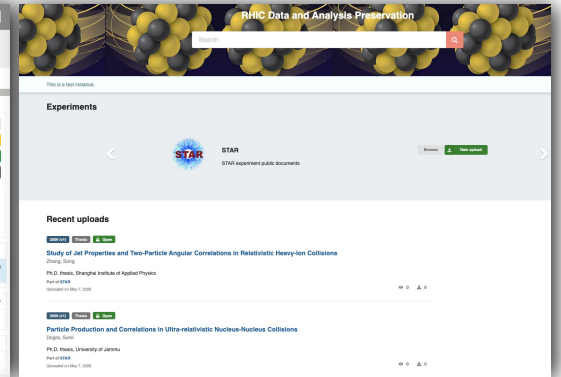
<https://sphenix-invenio.sdcc.bnl.gov>



ePIC Alpha
V12 to V13

Deployed Early 2024

<https://epic-invenio.sdcc.bnl.gov>



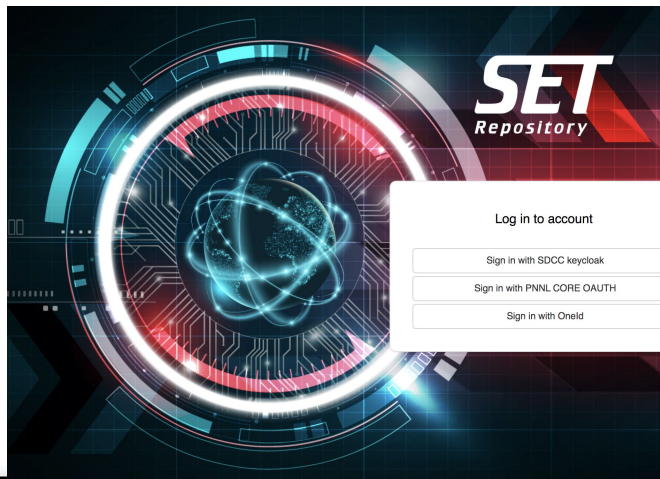
RHIC Data
Preservation
V12

Deployed Mid 2025

<https://rhicdap.sdcc.bnl.gov>

InvenioRDM within Invenio Framework

Invenio: The underlying framework - code library - used to build digital repositories.



InvenioRDM: A repository application built on Invenio, which institutions can install.





















Zenodo: A public, general-purpose research repository service hosted by CERN. Based on InvenioRDM.

InvenioRDM Info

<https://inveniosoftware.org/products/rdm/>



Custom Features and Enhancements Done

Functional Area	Description	Projects	Author	Upstream Addition
Communities	Community management and workflows.	DAP  	Uma	
Uploads	Submission and metadata customization.	DAP  	Uma	
Conversations	Record discussions and collaboration.	DAP  	Uma	
DOI Integration	OSTI and DOI registration support.	DAP 	Uma/Eric	
CI Logon	Authentication for Phonebook Integration.	DAP 	Rob/Uma	
Access Control	Customized visibility and publishing.	DAP  	Uma	
Notifications	Submission and collaboration notifications.	 	Uma	
Downloads	Bulk file downloads.		Uma	
Platform	Branding, authentication, and operational customizations.	DAP  	Uma/ Louis	
Migration from Zenodo	Zenodo records have been mirrored on InvenioRDM instances (ePIC and Data Preservation)	DAP 	Eric	

Integration with PhoneBook

ePIC Alpha and Data Preservation instances

Integrated with **PhoneBook** with **COmanage** providing the memberships and access levels of each user which are synced with the application, every time user logs in.

sPHENIX Instance

Uses **Keycloak** with a custom layer to authorize users' logins and addition of users memberships and access levels in predefined communities.

Integration with Email

- ▶▶ Automated email communication for repository events and user actions.

- ▶▶ Notification for invitations, content sharing, submissions, approvals, and collaboration activities.

- ▶▶ Enhanced notification capabilities supporting user mentions and role-based recipient targeting.

- ▶▶ Integration with existing email delivery infrastructure and notification preferences.

- ▶▶ Email testing environment, enabling notification workflows to be validated and inspected without sending emails to end users.

RDM Instances - Production Readiness

Standardized Deployment Structure

Consistent installation and upgrade procedures across instances.

Upgrade Validation

Application and services upgrades verified on test and development instances.

Externalized Configuration

Sensitive and instance-specific settings managed outside application code.

Configuration Management

Deployment and configuration automated through Puppet with code version-controlled in Git.

Reindexing Validation

Search index rebuild tested repeatedly.

Backup & Recovery

Backup and restore procedures established and regularly validated.

Operational Stability

Configuration Driven Architecture

Most custom functionality is controlled through `invenio.cfg` feature flags rather than code modifications.

Shared Code Base

Common implementations are used across repository instances to improve consistency and reduce maintenance effort.

Upgrade-Friendly Customizations

Custom code is maintained separately from upstream packages to simplify upgrades and future compatibility.

Operational Support

Ongoing maintenance, troubleshooting, deployment support, and issue resolution across repository instances.

Ongoing Standardization

Remaining instance-specific customizations are being migrated toward a fully configurable platform architecture.

Community Collaboration

Regular engagement with the CERN/InvenioRDM development community through meetings, workshops, Discord discussions, issue tracking, and upstream contributions.

Short term tasks (up to 3 months)



Support InvenioRDM upgrade activities and deployment maintenance. (V14)



Address high priority usability enhancements, identified after production usage.



Complete infrastructure containerization and deployment validation.



Continue standardization and configuration-driven customization efforts.



Validate compatibility of customizations with new releases.



Update operation documentation and deployment procedures.

Mid term tasks (6 - 12 months)



Single Codebase

Establish a single configurable code base across all repository instances.



Configuration Driven

Eliminate remaining deployment-time code modifications and move toward configuration-driven customization.



Upstream Contribution

Contribute broadly applicable enhancements upstream to the core software to reduce long-term maintenance effort.



Automated Deployment

Update and improve automation of installation, deployment, upgrade, and validation processes.