

openNP: a gateway to EOSC

A. Matta, LPC Caen, CNRS/IN2P3 A. Lemasson, GANIL, CNRS/IN2P3

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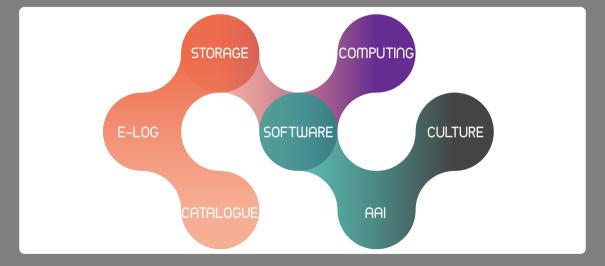




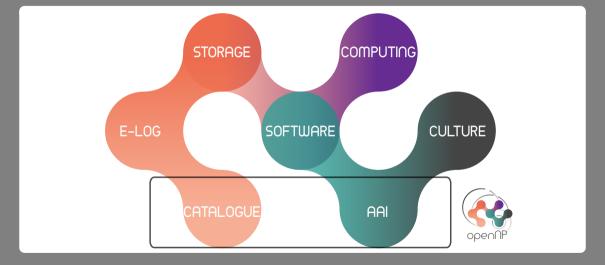




Open science challenges for the nuclear structure community



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NuPECC LRP 2024

• Submission of a contribution to next LRP

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Round table at GCM 2022

• Starting a multi-sided conversation

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GDR RESANET Open Science Workshop

- 5-6th December 2022 : register here
- Engaging with the community to define milestones
- Review and coordinate ongoing actions
- · openNP, logging facility, data storage and curation, computing platform, containers

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openNP & EUROLABS

• Starting the work on delivering the first EOSC service

openNP: a novel initiative within EURO-LABS

Context: EURO-LABS

- European scale project: GANIL, LPC Caen, IJCLab, GSI/FAIR, INFN, Jyvaskyla
- Organise and facilitate access to European facilities

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openNP: In a nutshell

- Open science initiative dedicated to nuclear physics
- Catalogue of data-set (experimental, simulated and theoretical), related information and tools
- EOSC-ready, for future integration

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openNP: Work packages

- 1 Open science desk (GANIL/LPC Caen): promote good practice: DMPs, source repo., ...
- 2 openNP catalogue (GANIL/LPC Caen): the product itself
- 3 AAI (IJCLab): Provide necessary infrastructure to access and manage the catalogue
- 4 Data Lake (GSI): Prototype data lake access

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- D Technically difficult, and require a lot of implication by all actors

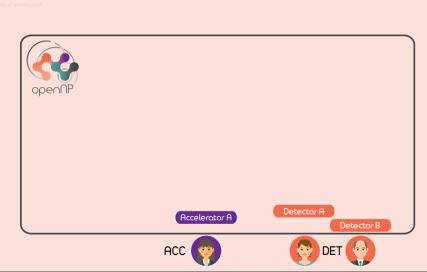
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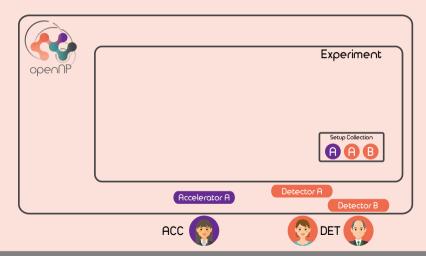


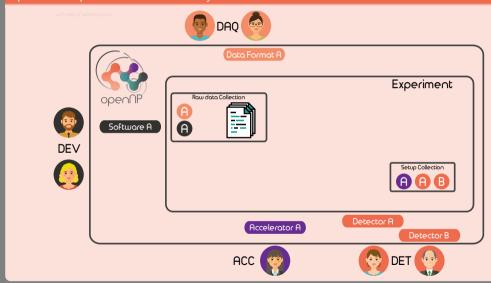






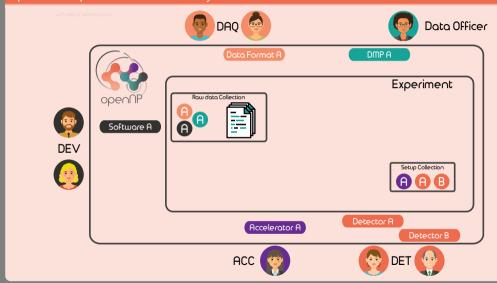


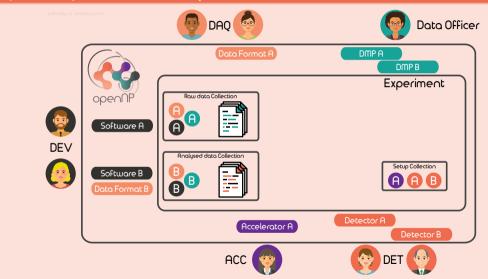




 Context
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 Experience
 Road-map

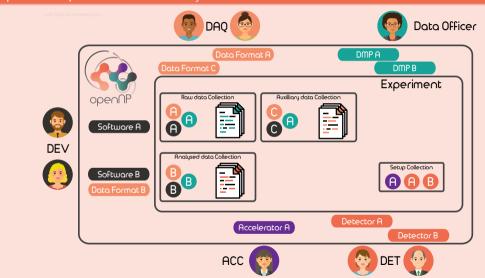
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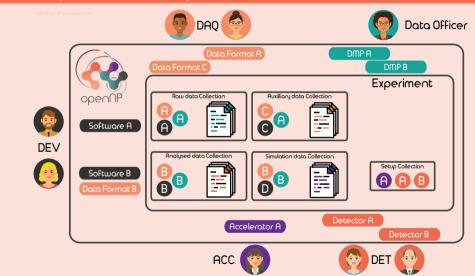


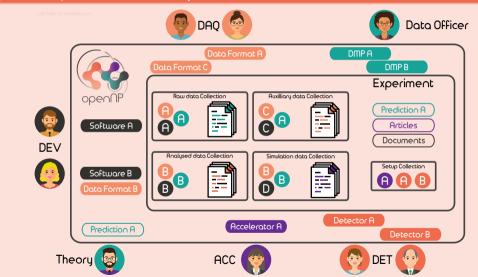


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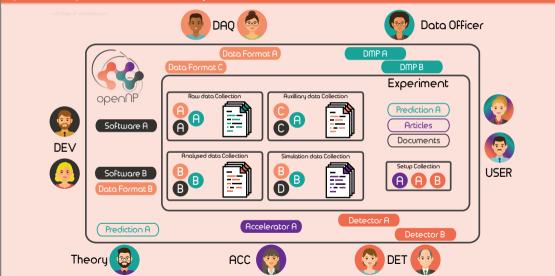






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 - \rightarrow Does a dataset exist where ⁵⁴Ca was populated?
 - → Which facility provide the most intense ¹⁸C beam?
 - \rightarrow Was ¹⁰He ever measured by missing mass?
 - ightarrow Mixing information from different data-set (e.g. Fission with VAMOS/LICORNE/ILL)

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- ✓ Provide metric: increase visibility, facilitate evaluation
 - $\rightarrow~25\%$ of publication on Coulex reaction used the AGATA array
 - $\rightarrow\,$ FASTER has been used in 54 exp. over the last 5 years
 - ightarrow VAMOS has been used in 16 different focal plane configurations

Road-map

openNP beyond EURO-LABS

A complete road-map

Short-Term:

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5-6th December 2022

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 - → Learning from other fields
 - → Bridging gap at domain interfaces
 - → Seamless integration to data lake

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 - → Shared computing platform
 - → Analysis and simulation tool at the ready



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 - $\rightarrow \ \, \text{Shared computing platform}$
 - \rightarrow Analysis and simulation tool at the ready
- Including Hardware design & theoretical work
 - $\,\rightarrow\,$ ASIC, board, and associated Firmware development
 - → Output of theoretical calculations & related software



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