



SubMIT

project team report

Mariarosaria D'Alfonso

Users meeting

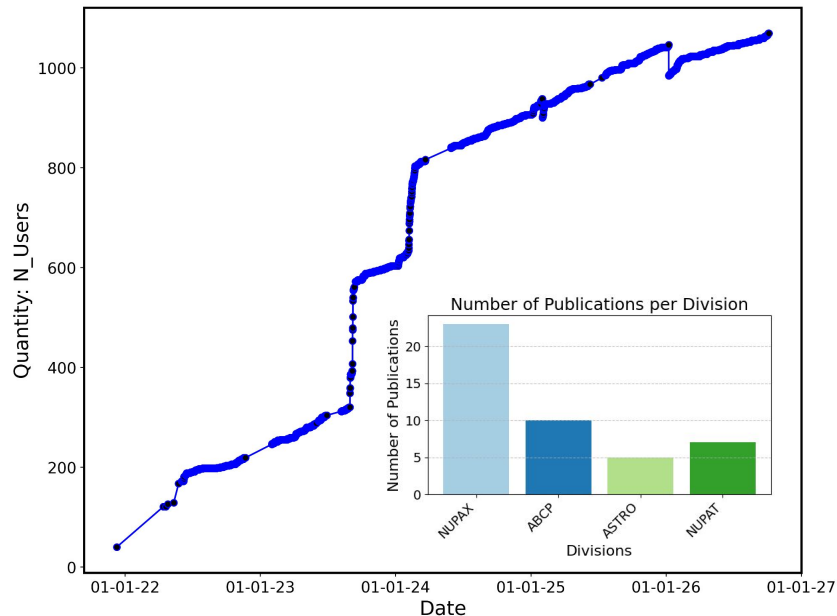
October 6, 2026



SubMIT @ Physics Department



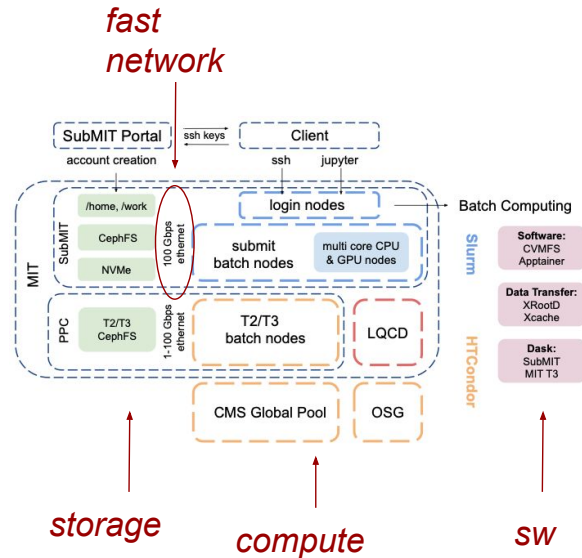
~1000 users, and ~ 45 publication

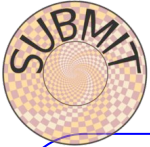


10/05/26, 03:20

Flexible infrastructure supporting a wide range of research workloads, users utilize the sw/hw according to their requirements

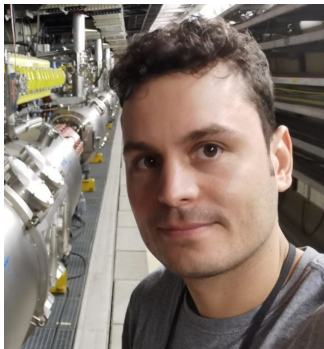
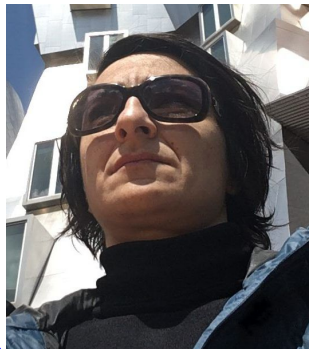
<https://link.springer.com/article/10.1007/s41781-025-00156-1>



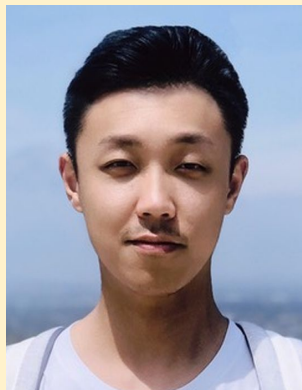


Project team and open positions

project team



*We have open positions
in the project team*



*Marianne, Alex, Jacob, Jan
left MIT and the subMIT
project team. **Thank you for
all your contributions over
many years.***



Resources (1)

Access: jupyter & ssh

SW: Containers (Podman) , Virtual environments (conda/python);
Software: OpenMPI, Globus, Mathematica, MATLAB

Storage:

/home 10GB User's home with backed-up storage notebooks and local code developments

/work 100GB for software installations

/scratch NVMe disk with fast access (for short term storage) *ultrafast*



1TB per user and groups space to store larger datasets *large-scale high-performance*

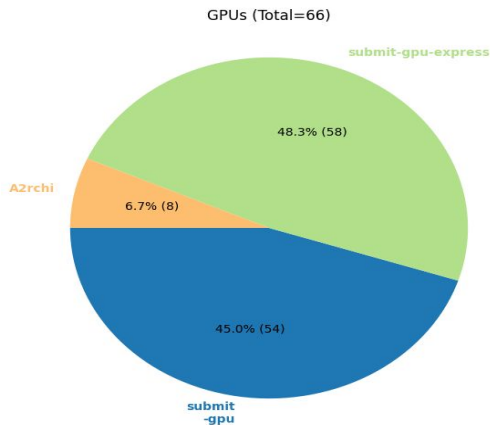
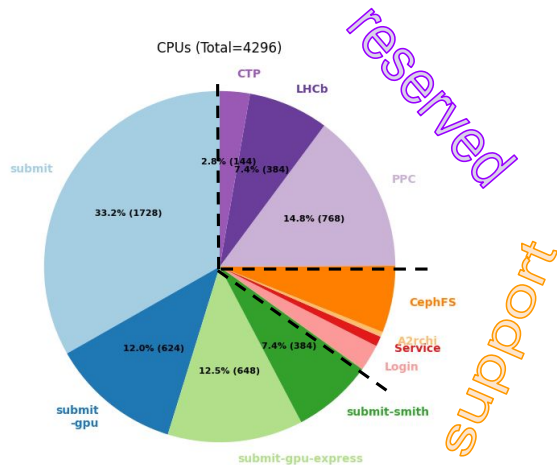
→ Users can request additional storage space or a group storage of reasonable size

→ If they request more space, we usually ask their group to contribute some storage disks



Resources (2)

slurm



6 interactive nodes

Workflow management: Slurm & HTcondor



Self Monitoring

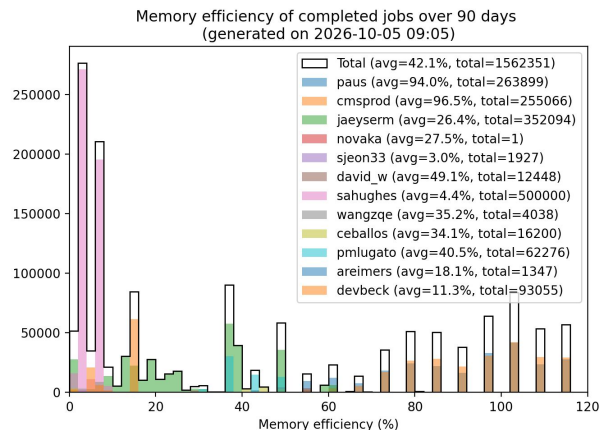
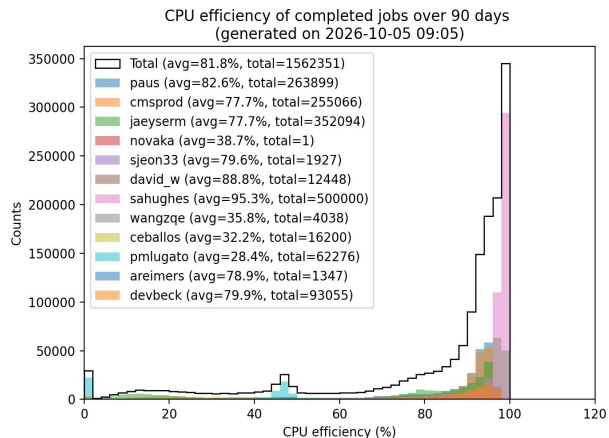
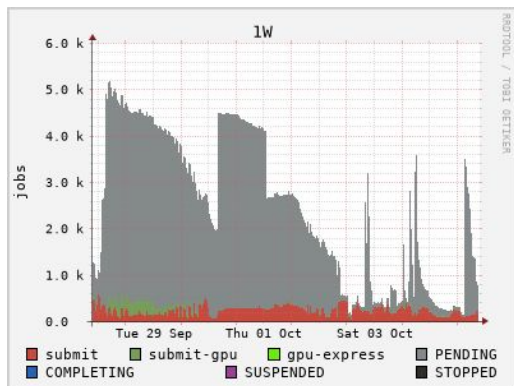


<https://submit.mit.edu/slurmmon/>

<https://submit.mit.edu/condormon/index.html>

Monitoring in place for condor
memory and CPU efficiency

https://submit.mit.edu//home_monitor/view.php?dir=./htcondor





We listen



Contact us at submit-help@mit.edu

Recent improvement:

Mathematics Wolfram simplified access and running on more nodes

More resources

- Ticket system
- Slack channels
- Documentation (tutorials/guides) <https://submit.mit.edu/submit-users-guide/>
- AI Chatbot - Archi <http://submit75.mit.edu:7861/>
- Contact your user representative (Amer Al-Hiyasat, Hans Moritz Guenther, Jordan Lang, Jose Miguel Munoz Arias, Josu Aurrekoetxea, Luke Kim)
- User group meetings like today



Today agenda

SubMIT Users Meeting - operated by Physics Basic Computing Services



Tuesday Oct 6, 2026, 4:00 PM → 5:00 PM Europe/Zurich



26-414 (Kolker room) (MIT)

Description The SubMIT analysis facility is for anyone in the Physics Department and is a set of servers that provide interactive access to substantial storage at high speeds, enabling sophisticated data analyses with very fast turnaround times. Additionally, it seamlessly integrates massive processing resources for large-scale tasks by connecting to a set of powerful batch processing systems.

More information about SubMIT: <https://submit.mit.edu/>

Zoom Link: <https://mit.zoom.us/j/95199329363>

4:00 PM → 4:05 PM **Refreshments**

⌚ 5m



4:05 PM → 4:20 PM **SubMIT Overview & News**

⌚ 15m



4:20 PM → 4:30 PM **User Group Representatives Roundtable & Open Discussion**

⌚ 10m



Speakers: Amer Al-Hiyasat (MIT), Hans Moritz Guenther (Massachusetts Institute of Technology), Jordan Lang (Massachusetts Institute of Technology), Jose Miguel Munoz Arias (Massachusetts Institute of Technology), Josu Aurrekoetxea (Massachusetts Institute of Technology), Luke Kim (student@mit.edu)

4:30 PM → 4:50 PM **SUBMITting QCD: Simulating how a plasma of quarks and gluons thermalizes and how jets lose energy**

⌚ 20m



Speaker: Florian Lindenbauer (Massachusetts Institute of Technology)

4:50 PM → 5:00 PM **Followup Discussion**

⌚ 10m

