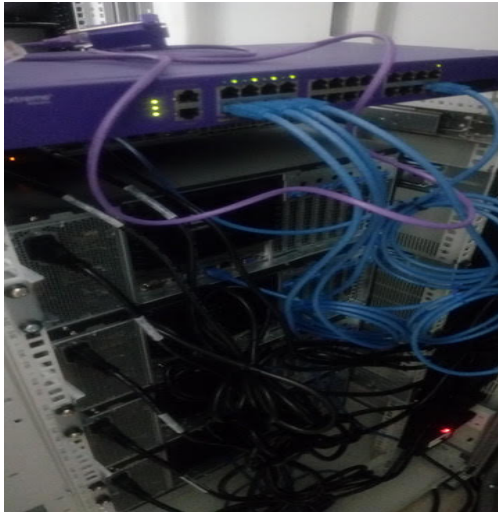


IAC 2017: High-Performance Computational Facility



Applications to Observational Cosmology



This facility is catering to two major science goals

- 1) Our group is working on end-to-end pipeline for redshifted hyper-fine transition of neutral hydrogen 21cm signal extraction as well as high fidelity radio imaging to understand cluster mergers through synchrotron radiation. These are in connection to our participation in the global project Square Kilometer Array (SKA) which is the largest radio telescope in the world.
- 2) We are also working on application of deep learning and other machine learning algorithms on cosmological problems.

Glimpse of the current facility (under operation) and future direction:

High-performance Computing Facility: 4 Nodes x (10-core, 16 GB RAM, 2800-core GPGPU) + 10-core, 64 GB Master Node.

Rack Workstation: 24 cores, 256 GB RAM, NVIDIA Quadro GPGPU with 1024 cores + 6GB RAM, 10 TB storage. **Tower Workstation:** 12 cores, 64 GB RAM, 6 TB storage space.

We plan to include further nodes (GPU enabled).