

Workshop on Computational MHD with the PLUTO code

Agenda:

- 3 lectures on basics (45 minutes each) in the morning
- afternoon hands-on sessions going over PLUTO MHD code, and other demos

Eligibility:

- 4th year BTech/BS, MS/MSc, beginning PhD students interested in computational astrophysics
- at least one course in programming; decent knowledge of C and Python

(Participants must bring their own laptops with linux OS installed)

After attending you should be able to:

- run hydro/MHD simulations using the PLUTO code
- understand structure of hydro/MHD codes
- understand the necessity of parallel programming (in particular, MPI) for state-of-the-art problems
- understand the basics of HPC

Duration: July 10-14, 2023

Venue: Department of Physics, IISc Bangalore

Application Deadline: June 5, 2023

Application Decision: June 9, 2023

Topics covered include basics of

- Hardware: serial, parallel, CPU/GPU
- Software: parallel programming, MPI Tutorial
- Hydrodynamics & magnetohydrodynamics (MHD)
- Finite difference & finite volume methods
- Computational methods for ideal MHD
- Non-ideal effects, cooling, conduction
- General Relativistic MHD
- Radiative transfer
- Particle-in-Cell (PIC) technique

Lecturers include

Anusha LS, IIA
Arkaprava Basu, IISc
Pallavi Bhat, ICTS
R. Govindarajan, IISc
Prayush Kumar, ICTS
Andrea Mignone, Univ of Torino, Italy (online; TBC)
Dipanjan Mukherjee, IUCAA
Prateek Sharma, IISc
Sathish Vadhiyar, IISc
Bhargav Vaidya, IIT Indore

Organising team

Dipanjan Mukherjee, IUCAA Pune
Prateek Sharma, IISc Bangalore
Bhargav Vaidya, IIT Indore

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[Apply Here](#)

Limited travel and accomodation support available.



Contact

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