

I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** Mandar Mane
- **User Type:** Masters
- **Institution Name** : IIT Hyderabad
- **Institutional Contact No:** 040 2301 6015
- **Research Topic:** Magnetic field shaping for plasma confinement in Hall Thrusters using COMSOL

Software Request Details

- **Software Name:** COMSOL
- **Justification for Software Request:** COMSOL is going to be used to design and study how magnetic fields control and focus plasma inside a Hall Effect Thruster. Through finite element simulations, it will help visualize how the magnetic field is distributed and how it affects the motion of charged particles within the thruster channel. This will allow the field to be shaped for stable and efficient plasma confinement. When combined with particle-in-cell simulations, it will show how electrons and ions move and interact in these fields. Together, these methods will guide the design of the magnetic lens system that enables efficient ion acceleration and stable operation of the Hall Effect Thruster.

Guide/Supervisor Approval

I, Vishnu R. Unni (Guide/Supervisor Name),

- Confirm that the above-mentioned researcher is affiliated with our institution
- Have reviewed the software request and its relevance to the researcher's academic work
- Approve the software request for research purposes

Approval Confirmation

- I approve the software request
- The software aligns with the researcher's research objectives
- The request meets the institutional research guidelines

Guide/Supervisor Signature: 

Date: 12/11/2025

Official Stamp/Seal: [Space for Institutional Stamp]

Dr. Vishnu R. Unni
Assistant Professor
Department of Mechanical and Aerospace Engg
Indian Institute of Technology (IIT) Hyderabad
Kandi, Sangareddy, India -502284.

Important Notes

1. This form must be signed and scanned
2. The scanned copy must be uploaded with the software request
3. Electronic signatures are acceptable if from an official institutional email