

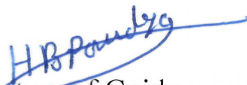
Annexure-I

**(A) Project proposals for PG / UG students**

[To be filled by IPR Project Guide/Supervisor]

1.	Title of the project	Synthetic spectrum of ECE radiation for LHCD plasma
2.	Project abstract Kindly provide a short summary (as given in the next page) of the project indicating problem definition/objectives, scope of work, project duration and expected outcome	As per Annexure-I
3.	Project Duration: [Minimum 3 months for UG and minimum 6 months for PG students]	6 months
4.	Student's Discipline/Branch and Number of students:	M.Sc. (Physics)
5.	Work location/Lab location where student will work:	ITER-India office
6.	Equipment's needed and its availability:	It is available with ITER-India diagnostic group
7.	Contact details of the Guide/Supervisor	
	• Name:	Dr. Hitesh Kumar B. Pandya and Dr. Subhash P V
	• Designation:	Scientific Officer G and Scientific Officer E
	• Section/Division:	ITER-India Diagnostics
	• Area of expertise:	Numerical analysis in FORTRAN and C language
	• Email:	<a href="mailto:hitesh@ipr.res.in">hitesh@ipr.res.in</a> , <a href="mailto:subhashpv@iter-india.org">subhashpv@iter-india.org</a>
	• Phone Number:	079 23269565/23269698
8.	Remarks [if any]	

I have gone through the Project Guidelines/Responsibilities of Guide mentioned at IPR e-office website.

  
Signature of Guide  
(With Date)

  
Signature of Group/ Division/Section Head  
(With Date)

Annexure-I

## **Synthetic spectrum of ECE radiation for LHCD plasma**

### **Abstract**

The Electron Cyclotron Emission (ECE), is routinely used in Tokamaks to measure the radial temperature profile of plasma. We have previously used NOTEC code to understand ITER ECE spectrum with and without considering super-thermal electron populations (through both Maxwellian and Non-Maxwellian descriptions). Lower Hybrid Current Drive is also used in Tokamaks for electromagnetic coupling of energy in microwave range to plasma. The similar method used for ECE analysis with some modification can be used to understand LHCD physics. The super-thermal electron generated in this process will have many impacts including energy coupling efficiency of LHCD. The present proposal will be oriented towards calculating super-thermal distribution generated by LHCD, either using enhanced features of NOETC or through some standard Fokker-Plank solvers.

**Eligibility: Only students of M.Sc. (Physics) branches can submit their application at following email addresses**

**[hitesh@ipr.res.in](mailto:hitesh@ipr.res.in) and [subhashpv@iter-india.org](mailto:subhashpv@iter-india.org)**

**Phone Number: 079-23269565/23269698**