

AA 363

PLASMA TOPICS DISTRIBUTION
RULES TO MAKE PRESENTATIONS FRUITFUL

1. Each group is assigned to a group of topics.
2. Each member of that group will present only a part but should read about the entire list of topics on that particular day.
3. You are encouraged to work with other members of your group.
4. Try presenting your ideas clearly and outline the problems or questions about understanding that topic.
5. Each presenter has roughly 20 mins.
6. Each presenter or your instructor will take questions only at the end of every presentation. Please hold your thoughts till the end!

PLASMA COURSE TOPICS

Date	Topics	Presenters
<p>13-Nov-2018 Tue</p>	<ol style="list-style-type: none"> 1. Motion of charged particles under E & B(Orbit theory), EXB drift, E & B transformations in plasma frame 2. Gradient & curvature drifts, Magnetic mirrors 3. Adiabatic invariants 4. Gyrosynchrotron & Cyclotron radiation 	<ol style="list-style-type: none"> 1. Ankur, 2. Shahul, 3. Rashid, 4. Tajinder
<p>15-Nov-2018 Thu (16-Nov Fri for spill overs)</p>	<ol style="list-style-type: none"> 1. Vlasov equation & Boltzman transport equation 2. Landau damping 3. Fokker Planck equation 4. Moments of Boltzman equation 5. Two fluid description 	<ol style="list-style-type: none"> 1. Rohit 2. Sandeep 3. Jyoti 4. Samriddhi 5. Swastik
<p>20-Nov-2018 Tue (22-Nov for spillovers)</p>	<ol style="list-style-type: none"> 1. Single fluid description 2. Equations of magneto-hydrodynamics (MHD): velocity & energy (Spitzer conductivity) 3. Alfven's theorem of flux freezing, magnetic Reynolds number 4. Generalized Ohm's law: Hall current and ambipolar diffusion 	<ol style="list-style-type: none"> 1. Sioree, 2. Deepthi 3. Anirban-RRI 4. Fazlu 5. Sonith

PLASMA COURSE TOPICS

Date	Topics	Students
23-Nov-2018 Fri	<ol style="list-style-type: none">1. MHD waves: modes of MHD equations2. Compressible and incompressible modes and Dispersion relations3. waves in warm magnetized plasma (Langmuir waves and ion-acoustic waves)4. waves in cold plasma (Whistlers, Faraday rotation)	<ol style="list-style-type: none">1. Ashwin2. Puneet3. Anirban-IIA4. Indrani
27-Nov-2018 Tue	<ol style="list-style-type: none">1. Magnetic helicity2. Magnetic reconnection3. Dynamo theory	Piyali
29-Nov-2018	Last class before exam	