

226709 PHYSICS OF SOLAR SYSTEM

(ฟิสิกส์ของระบบสุริยะ)

Number of Credits: 3

Course Description :

physics of solar system explains the behavior of plasma in space, its origin from stars and planets, interaction between solar wind and planetary magnetic field, creation process of planetary magnetosphere, structure and current system in magnetosphere, physical phenomenon in magnetosphere and physics of planetary aurorae.

Course Objective :

Student should understand the behavior of plasma in space, the creation of planetary magnetosphere and relating physical processes, including with dynamics of plasma inside the magnetospheres and aurora phenomena of planets.

Course Contents	No. of Lect. Hours
1. Introduction: Plasma in space	
- Plasma Physics	3
- Plasma motion under influence of magnetic field	3
- Plasma in solar atmosphere and solar wind	6
2. Interaction between unmagnetized bodies and solar wind	3
3. Interaction between planet's magnetic field with solar wind	6
- Creation of planetary magnetosphere	
4. Planetary magnetosphere	9
- Structure of planetary magnetosphere	
- Current system and plasma in magnetosphere	
5. Dynamic of plasma in magnetosphere	6
- Interaction between magnetosphere and satellites	
6. Plasma in planetary atmosphere	7.5
- Ionosphere structure	
- Connection between magnetosphere and ionosphere	
- Planetary aurorae	
7. Space Weather and earth climate	1.5
Total	45

