

Report on

Japan–Korea Mini–Workshop 2007
on Laboratory, Space and Astrophysical
Plasmas

<http://canopus.cnu.ac.kr/lsap/jpn-kor07.htm>

National Fusion Research Center (NFRC), Daejeon,
Korea

<http://www.nfrc.re.kr/english/>

April 5 (Thursday) and 6 (Friday), 2007

prepared by

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List of Participants:

Japan

Takanobu Amano (University of Tokyo) – student

Masahiro Hoshino (University of Tokyo) – space plasma

Yasuaki Kishimoto (Kyoto University) – laboratory plasma

Shuichi Matsukiyo (Kyushu University) – space plasma

Hideaki Takabe (Osaka University) – laboratory plasma

Ryo Yamazaki (Hiroshima University) – astrophysical plasma

Korea

Jungyeon Cho (Chungnam National University) – astrophysical plasma

Kwon Kook Choh (National Fusion Research Center) – laboratory
plasma

Yong Ho Jung (National Fusion Research Center) – laboratory plasma

Hyesung Kang (Pusan National University) – astrophysical plasma

Jongsoo Kim (Korea Astronomy and Space Science Institute) –
astrophysical plasma

Young-Woo Kim (National Fusion Research Center) – laboratory
plasma

In Soo Ko (Pohang U. of Science and Technology) – laboratory
plasma

Myeun Kwon (National Fusion Research Center) – laboratory plasma

Bong Ju Lee (National Fusion Research Center) – laboratory plasma

Taihyeop Lho (National Fusion Research Center) – laboratory plasma

Chang-Mo Ryu (Pohang U. of Science and Technology) – space
plasma

Dongsu Ryu (Chungnam National University) – astrophysical plasma

Yu Yi (Chungnam National University) – space plasma

Suk Jae Yoo (National Fusion Research Center) – laboratory plasma

Jung-Sik Yoon (National Fusion Research Center) – laboratory
plasma

Program:

April 5 (Thursday)

10:00 am – 10:40 am Registration and Introduction of Participants

10:40 am – 12:00 noon Laboratory Facility and Researches –Kwon
Kwon Kook Choh (National Fusion Research Center)

*General Introduction to Multi-Purpose Plasma (MP2) Facility as
a Space Simulator*

Taihyeop Lho (National Fusion Research Center)

*Recent Activities for Industrial Applicable Plasma Research in
NFRC*

12:00 noon – 1:30 pm Lunch

1:30 pm – 2:50 pm Turbulence I – Hoshino

Jungyeon Cho (Chungnam National University)

Turbulence in General

Hideaki Takabe (Osaka University)

*Review on the Physics of Compressible Turbulent Mixing Driven
by Hydrodynamical Shock Wave, Combustion Wave and/or
Gravitational or Inertial Force*

2:50 pm – 3:10 pm Break

3:10 pm – 4:30 pm Turbulence II – Takabe

Chang-Mo Ryu (Pohang U. of Science and Technology)

*A Coherent Structure Driven by Drift Turbulence in Hanbit
Plasmas*

Yasuaki Kishimoto (Kyoto University)

*Role of Large Scale Structure in Drift Wave Turbulence in
Magnetically Confined Plasmas*

4:30 pm – 4:50 pm Break

4:50 pm – 6:00 pm Discussions (including AAPPs-DPP) – B. J. Lee

6:00 pm – Dinner

April 6 (Friday)

10:00 am - 11:20 noon **Turbulence III** - H. Kang

Jongsoo Kim (Korea Astronomy and Space Science Institute)

Turbulence and Star Formation

Dongsu Ryu (Chungnam National University)

Turbulence in the Large Scale Structure of the Universe

11:20 am - 12:00 noon **Tour of National Fusion Research Center**

12:00 noon - 1:30 pm **Lunch**

1:30 pm - 2:50 pm **Shock Waves I** - C.-M. Ryu

Ryo Yamazaki (Hiroshima University)

On Energy Partition in Astrophysical Collisionless Shocks

Masahiro Hoshino (University of Tokyo)

*Nonlinear Electromagnetic Waves and Nonthermal Particle
Acceleration in Shock Waves*

2:50 pm - 3:05 pm **Break**

3:05 pm - 4:45 pm **Shock Waves II** - Kishimoto

Hyesung Kang (Pusan National University)

Particle Acceleration in Astrophysical Shock Waves

Shuichi Matsukiyo (Kyushu University)

*Roles of Modified Two-Stream Instability in Supercritical Shock
Waves*

Takanobu Amano (University of Tokyo) - 20 minutes

Dissipation and Particle Acceleration Processes in Shock Waves

4:45 pm - 5:00 pm **Break**

5:00 pm - 6:10 pm **Discussions** - D. Ryu

6:10 pm - **Dinner**

presentation files can be downloaded from

<http://canopus.cnu.ac.kr/lsap/jpn-kor07.htm>

Goals of The Meeting

- to find common interests and projects in the fields of laboratory, space and astrophysical plasmas
- to promote exchange and collaborations among different research groups in Japan and Korea