

1st A3 Foresight Summer School on "Innovative Tokamak Plasma Startup and Current Drive in Spherical Torus"

1st Day Morning Common session

- 09:00-09:30 Guidance for Summer School and Workshop
- 09:45-10:30 Lecture "Review of reconnection experiments" Y. Ono (U. Tokyo)
- 10:30-11:00 Coffee Break
- 11:00-11:45 Lecture "Laboratory studies of dynamos phenomena" C. Forest (U. Wisconsin)
- 11:45-12:30 Lecture "Angular momentum transport in cylindrical annulus" F. Cattaneo (Chicago U.)

1st Day Afternoon Common session

- 14:00-14:45 Lecture "Angular momentum transport and intrinsic rotation in laboratory plasma" K .Ida (NIFS)
- 14:45-15:30 Lecture "Angular momentum transfer in solar differential rotation" Y. Masada (Kobe U.)
- 15:30-16:00 Coffee Break
- 16:00-17:30 Discussion

2nd Day Morning Common session

- 09:00-09:45 Lecture "Laboratory astrophysics studies using intense lasers" Y. Sakawa (Osaka U.)
- 09:45-10:30 Lecture "Particle Acceleration in Plasma Universe" M.Hoshino (U. Tokyo)
- 10:30-11:00 Coffee Break
- 11:00-11:45 Lecture "Self-organization and nonlinear MHD in solar and laboratory plasmas" K. Kusano (Nagoya U.)
- 11:45-12:30 Lecture "Reconnection in Solar plasmas" S. Shibata (Kyoto U.)

2nd Day Afternoon ST session

- 14:00-14:30 Invited talk "Merging startup of high-beta ST via magnetic reconnection" M. Inomoto (U. Tokyo)
- 14:30-15:30 Students' oral session 1 (Chair : Mr. Lee, Hyun Yeong from SNU)
 - (1) Chai, Song "Real-time Measurement for Horizontal Displacement of Plasma current on SUNIST"
 - (2) Watanabe, Takenori "Spectroscopy Measurement of Ion Heating during Magnetic Reconnection in MAST"
 - (3) Yang, Jeong-Hun "Development of Dual Sensor Internal Magnetic Probe Array in Versatile Experiment Spherical Torus"
 - (4) Furui, Hirokazu, "Development of a local plasma current diagnostic using small Rogowski coil in the TST-2 spherical tokamak"
- 15:30-16:00 Coffee Break
- 16:00-16:30 Invited talk "Alfven wave current drive: theoretical considerations and experimental efforts" Z. Gao (Tsinghua U.)
- 16:30-17:30 Students' oral session 2 (Chair : Mr. Gi, Keii from U.Tokyo)
 - (1) Shinya, Takahiro, "Identification of Waves by Magnetic Probes during Lower Hybrid Wave Injection Experiments on the TST-2 Spherical Tokamak"
 - (2) Liu, Yangqing "Time-frequency analysis of non-stationary signals in fusion plasmas"
 - (3) Byun, Cheol-Sik "Confinement characteristics of the extended operation regime of KSTAR toward advanced scenarios"
 - (4) Ke, Rui "Application of wireless technology to control and data acquisition in the SUNIST"

1st A3 Foresight Summer School on "Innovative Tokamak Plasma Startup and Current Drive in Spherical Torus"

| | |
|---------------------------------------|---|
| 3rd Day Morning Common session | |
| 09:00-09:30 | Invited talk "Physics of Accretion Discs" R. Matsumoto (Chiba U.) |
| 09:30-10:00 | Invited talk "Intrinsic rotation and torque on KSTAR tokamak" WonHa Ko (NFRI) |
| 10:00-10:30 | Invited talk "Kinetic plasma turbulence in multidimensional phase space" T.H. Watanabe (NIFS) |
| 10:30-11:00 | Coffee Break |
| 11:00-11:30 | Invited talk "Phase space density granulations and subcritical growth in Vlasov systems" M. Lesur (Kyushu U.) |
| 11:30-12:00 | Invited talk "Variety of fundamental MHD processes revealed with the Hinode satellite" R. Ishikawa (NAJO) |
| 12:00-12:30 | Invited talk "Study of fusion plasma in terms of spectroscopy and atomic processes in LHD" M. Goto (NIFS) |
| 3rd Day Afternoon ST session | |
| 14:00-14:45 | Lecture "Studies of Waves in the Ion Cyclotron Range of Frequencies in Tokamaks" N. Tsujii (U. Tokyo) |
| 14:45-15:30 | Students' oral session 3 (Chair : Mr. Liu, Yangqing from Tsinghua U) (1) Kaminou, Yasuhiro, "Neutral beam injection system in TS-4" (2) Lee, Hyun Yeong "ECH/EBW pre-ionization experiments in Versatile Experiment Spherical Torus(VEST)" (3) Itagaki, Hiroto "Suppression of rotational Instability of Field-Reversed Configuration by helicity injection" |
| 15:30-16:00 | Coffee Break |
| 16:00-17:00 | Students' oral session 4 (Chair : Mr. Yamasaki, Kotaro from U.Tokyo) (1) Annoura, Masanobu, "Doppler Spectroscopy Measurements in TS-4" (2) Jiang Yanzheng: "External Magnetic Field System on SUNIST Spherical Tokamak" (3) Tarucha, Tomoaki "Construction of the spatial scanning interferometer system with CO2 laser" (4) Sonehara, Masateru, "Observation of edge fluctuations with a composite probe system in the TST-2 spherical tokamak" |
| 17:00-17:30 | Lecture "Start-up and current drive in spherical torus" Y. Hwang (SNU) |
| 4th Day Common session | |
| 09:00-12:00 | Poster session for students |
| 13:30-18:00 | Technical tour to NAJO |
| 5th Day Morning Common session | |
| 09:00-09:30 | Invited talk "2D and 3D ECE Imagings of Tokamak Plasmas" H.K. Park (POSTECH) |
| 09:30-10:00 | Invited talk "Recent development in reconnection research" M. Yamada (PPPL) |
| 10:00-10:30 | Invited talk "Plasmoid Reconnections in Space and Sun" C.Z. Cheng (NCKU) |
| 10:30-11:00 | Coffee Break |
| 11:00-11:30 | Invited talk "Theory of resonant MHD instabilities / Fluid theory of reconnecting instabilities" A. Ishizawa (NIFS) |
| 11:30-12:00 | Invited talk "Laser Relativistic Self-focusing and its Applications" K. Tanaka (Osaka U.) |
| 12:00-12:30 | Invited talk "Extreme States of Matters Created Using Various Lasers" R. Kodama (Osaka U.) |

Poster presentations

Yang, Seong-Moo "Parameter dependency of pinch in toroidal momentum transport of tokamaks"

Na, Dong Hyeon "Effects of ECRH on toroidal rotation : Mode dependency of the pinch"

Byun, Cheol-Sik "Confinement Characteristics of the Extended Operation Regime of KSTAR toward Advanced Scenarios"

Yang, Jeong-Hun "Development of Dual Sensor Internal Magnetic Probe Array in Versatile Experiment Spherical Torus"

Kang, Jisung "Conceptual Study on High-harmonics Fast Wave Current Drive for Spherical Torus Demo"

Lee, Hyun Yeong "ECH/EBW pre-ionization experiments in Versatile Experiment Spherical Torus(VEST)"

Furui, Hirokazu, "Development of a local plasma current diagnostic using small Rogowski coil in the TST-2 spherical tokamak"

Shinya, Takahiro, "Identification of Waves by Magnetic Probes during Lower Hybrid Wave Injection Experiments on the TST-2 Spherical Tokamak"

Sonehara, Masateru, "Observation of edge fluctuations with a composite probe system in the TST-2 spherical tokamak"

Kaminou, Yasuhiro "Structures of electrostatic potential and ion outflow at the merging process of counter-helicity spheromaks"

Kitazumi, Kota "Development of two-dimensional Thomson scattering measurement using multiple reflection and the time-of-flight of laser light for TS-4 magnetic reconnection experiment"

Koike, Hideya, "Development of Doppler probe for local ion temperature measurement"