

Joint ICTP-CAS-IAEA School and Workshop on Plasma-Material Interaction in Fusion Devices

Second Announcement

18 - 22 July 2016, Hefei Institutes of Physical Science, Hefei, P. R. China

The Abdus Salam International Centre for Theoretical Physics (ICTP), the Chinese Academy of Sciences (CAS) and the International Atomic Energy Agency (IAEA) will jointly organize a School and Workshop on Plasma-Material Interaction in Fusion Devices from 18 to 22 July 2016. The event will be hosted by the CAS Institutes of Plasma Physics (ASIPP) and of Solid State Physics (ISSP) and held at the CAS Hefei Institutes of Physical Science in Hefei, China.

Introduction

The study of plasma-material interaction in fusion devices is devoted foremost to the twin topics of erosion and hydrogen (tritium) retention, and it is closely connected to the study of material microstructure and radiation damage. Basic computational methods include first-principles electronic structure calculations, classical molecular dynamics, kinetic Monte Carlo (KMC) and rate equation modeling, quantum transition state theory, and path integral approaches to hydrogen and defect migration, among other methods. The field has a strong interest in predictive simulations and also in simulations to support interpretation of experimental data. Relevant research is carried out in fusion and materials research institutes and in university departments of physics, chemistry and engineering science.

Purpose

The purpose of the School and Workshop is to provide advanced training and a forum for discussion concerning computational studies of plasma-material interaction processes in fusion devices. The meeting will bring together researchers (lecturers, invited speakers and participants by application) from the areas of materials science and plasma-material interaction in connection with nuclear fusion. Participants should return from the meeting with a richer understanding of computational methods for study of plasma-material interaction processes and of the applications of these methods in fusion energy research. The school and workshop is being held in China in order to take advantage of that country's rapidly growing expertise in modelling of fusion materials and plasma-material interaction and to promote interaction between younger Chinese scientists and their international peers.

Topics to be covered

1. Electronic structure methods and tools for study of material microstructure and trapping and transport of H and He in fusion wall materials.
2. Development of classical interaction potentials for molecular dynamics studies.
3. Development of rate coefficients for KMC and other long-time evolution calculations.
4. Simulation methods for interpretation of experimental data, for example data obtained by thermal desorption spectroscopy.
5. Specific computational studies of erosion of plasma-facing materials due to plasma exposure, of radiation damage in plasma-facing materials and of trapping and migration of hydrogen and helium in such materials.

Registration

Registration time/place:

(1) July 17, 2016 / 14:00-18:00, lobby of BEST WESTERN PREMIER Hotel Hefei.

(2) July 18, 2016 / 8:00-8:30, entrance of meeting room 601, Building No. 4, ASIPP.

No registration fee will be charged.

Presentations

The working language of the School and Workshop is English.

Invited talks: 25 min (20 min talk, 5 min questions)

Contributed talks: 15 min (12 min talk, 3 min questions)

Computers: there is a desktop computer in the conference room, so you can use your USB disks.

You can also use your personal laptops, a VGA connector to the projector will be provided.

Laser pointer: We will prepare one with the wireless page up and down functions.

Poster Preparation

Size- height: 120 cm; width: 80 cm

Please bring your printed poster and post it on site at 6th Floor Middle Meeting Room (from Tuesday to Thursday).

Contact Information

Local Contacts:

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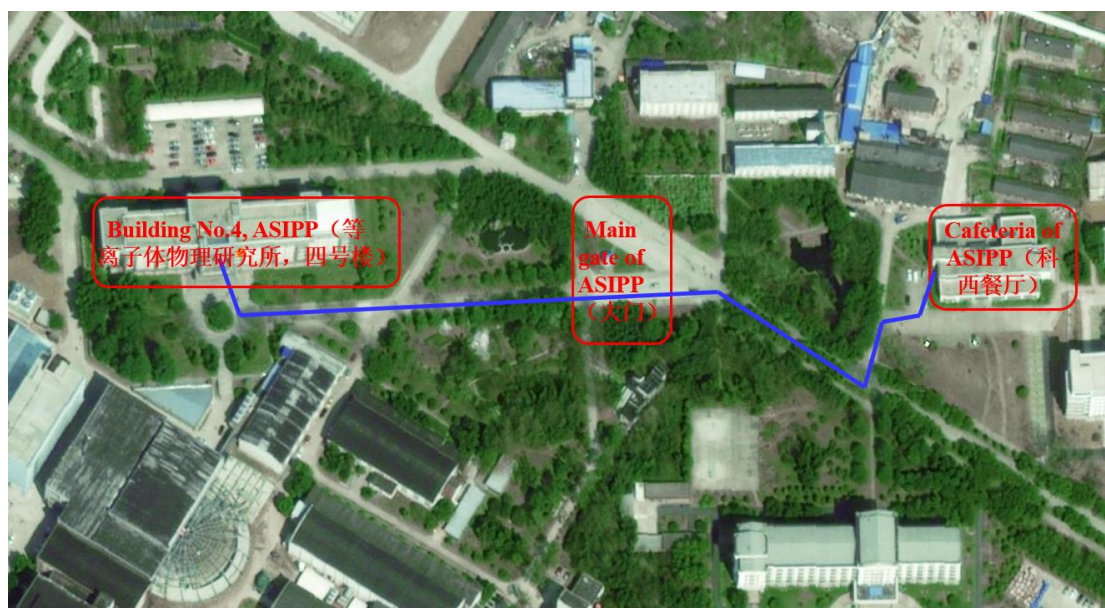
Conference Venue

Venue: Building No.4, ASIPP (等离子体物理研究所, 四号楼, 科学岛).

Lecture/Oral/Training: Meeting Room 601;

Poster: 6th Floor Middle Meeting Room (from Tuesday on).

Meals: We will have a buffet lunch (Monday - Friday) and one reception (Monday night) in the cafeteria of ASIPP for all participants for free.



Directions between Building No.4 and Cafeteria

Recommended Hotel

BEST WESTERN PREMIER Hotel Hefei (合肥贝斯特韦斯特精品酒店)

<http://www.bestwestern.net.cn/en/hotels/best-western-premier-hotel-hefei-hefei-78665>



Transportation to Recommended Hotel

(1) Hefei Xinqiao International Airport (合肥新桥国际机场)

- Taxi (about 33 km, about 85 RMB a car)
- Airport Shuttle buses (25 RMB), please take **Line 3 or Line 5**, and take off at **“Crown Plaza Hefei station (皇冠假日酒店)”**

(2) Hefei nan railway station (合肥南站)

- Taxi (about 12 km, about 25 RMB a car)

(3) Hefei railway station (合肥站)

- Taxi (about 15 km, about 30 RMB a car)

If you take a taxi and can't speak Chinese, please show the following note to the taxi driver:

Please take me to BEST WESTERN PREMIER Hotel Hefei, thank you!

请送我到合肥贝斯特韦斯特精品酒店(安徽省合肥市黄山路 598 号 B 座), 谢谢!

Transportation from Recommended Hotel to Conference

Venue

We will arrange a shuttle bus between the Recommended Hotel and conference venue during the conference (Detailed time table could be found in the Agenda).

If you missed the shuttle bus, you have to take a taxi.

If you take a taxi and can't speak Chinese, please show the following note to the taxi driver:

Please take me to science island (Institutes of Plasma Physics), thank you!

请送我到科学岛（等离子体物理研究所），谢谢！

Restaurants around Recommended Hotel

