

3rd summer school on the Physics of plasma-surface interactions, Jul 16 – 20, 2018, NRNU MEPhI, Moscow

July, 16(Chair: Pisarev A.A.) - Monday

9:00	Registration starts, MEPhI entrance
10:00	V.Kurnaev. Opening
10:30-11:30	A. Litnovsky. Advanced materials for a future fusion plant
11:30-11:45	Coffee break
11:45-13:00	Guido Van Oost “ITER and beyond”; Structural Materials for Fusion Devices.
13:00-14:30	Lunch
14.30 – 15:30	L. Begrambekov. Tungsten coatings and coatings on tungsten
15:30 - 16:30	A. Arakcheev Effects of transient heat load on materials

July, 17 (Chair: T. Tanabe) Tuesday

9:00	Registration starts, MEPhI entrance
9:30-10:30	J.-M. Layet. Diagnostic of solids
10:30-11:30	C. Grisolia. Tritiated dust: their impact on tokamak safety
11:30-11:45	Coffee break
11:45-12:45	M. Mayer Deuterium retention in tungsten
12:45-14:00	Lunch
14.00 – 15:30	C. Bundesmann. Systematics of (dual) ion beam sputter deposition
15:30 – 17:15	Student’s talks Chair: A. Kreter

July, 18 (Chair: K. Nordlund) Wednesday

9:30-11:00	J. Strümpfel. Industrial Magnetron Sputtering for Large Area Deposition of Functional Coatings
11:00-11:15	Coffee break
11:15-12:15	R. Pitts. ITER project status
12:15-14:00	Lunch
14.00 – 15:30	R. Pitts. ITER divertor physics basis
15:30 – 17:00	Student’s talks Chair: L. Zaharov
17:00 – 22:00	Excursion to MEPhI labs

July, 19 (Chair: C. Bundesmann) Thursday

9:30-10:30	K. Nordlund MD – Molecular dynamics of plasma materials interactions
10:30-11:30	F. Djurabekova MC – Simulation of realistic RBS-C spectra from read-in atomistic structures damaged by high dose irradiation.
11:30-11:45	Coffee break
11:45-12:45	T. Tanabe. Interaction of hydrogen with fusion reactor materials
12:45-14:00	Lunch
14.00 – 15:00	T. Tanabe. Continued
15:00 - 16:30	Student’s talks Chair: J. Horacek
17:00	Conference dinner

July, 20 (Chair: L.B. Begrambekov) Friday

9:30-10:30	A. Kreter. Research on plasma-material interaction in dedicated facilities
10:30-11:30	A. Pisarev. Uncertainties in estimations of tritium accumulation in ITER divertor plates due to plasma implantation: Influence of basic parameters
11:30-11:45	Coffee break
11:45-12:45	A. Kukushkin. SOLPS modeling of edge tokamak plasma

12:45-14:00	Lunch
14:00 – 15:00	J. Horacek. Turbulence simulations compared with probes data
15:00 – 16:00	J. Horacek. ITER limiter optimization, divertor heat flux scalings, liquid metals for DEMO divertor
16:00 – 17:00	L. Zaharov. MHD of liquid lithium in tokamak environment, lithium affect on confinement and on approach to tokamak fusion
17:00-17:30	Closing

Student's talks

July, 17

15:30-15:45	Anufriev. Concept of lithium vapor box for DEMO-FNS divertor
15:45-16:00	Bernatskiy. H ₂ O and HDO molecule dynamics in quartz tube in discharge and after its shutdown
16:00-16:15	Bidlevich. Dust probe design optimization
16:15 – 16:30	Coffee break
16:30-16:45	Borodkina. Wall conditioning strategy in the upcoming D, H and T experimental campaigns in JET-ILW
16:45-17:00	Burwitz. Temperature programmed desorption of helium in tungsten
17:00-17:15	Vuoriheimo. Low energy deuterium implantation and elastic recoil detection analysis as tools for studying tritium retention and defect formation in plasma-facing materials
17:15 – 17:30	Anufriev. Concept of lithium vapor box for demo-fns divertor

July, 18

15:30-15:45	Doronin. Plasmachemical surface modification of flexible polymer substrates
15:45-16:00	Ivanov. Microplasma discharges excited by a plasma flow on the metals and alloys
16:00-16:15	Kiramov. Plasma current profile force-free evolution in a tokamak during the current quench
16:15 – 16:30	Coffee break
16:30-16:45	Lyashenko. Computational studying of tungsten sputtering by nitrogen
16:45-17:00	Miniyazov. Influence of a nitrided tungsten surface on the fuzz formation
17:00-17:15	Puntakov. Behaviour of redeposited layers on tungsten during thermal and plasma loads
17:15 – 17:30	Marenkov. Role of metastable states in spatial distribution of radiation of sputtered metal atoms.

July, 19

15:30-15:45	Soni. Excitation of slow waves in front of an ICRF antenna in a basic wave experiment
15:45-16:00	Stepanov. Simulation of carbon nanotubes defects formation under ion irradiation
16:00-16:15	Sycheva. Role of porosity and pore size in structural changes of nanoporous silicon-based materials under low-energy ion irradiation
16:15 – 16:30	Coffee break
16:30-16:45	Tulenbergenov. The results of gas emission analysis from samples on a plasma beam installation
16:45-17:00	Shymanski. Tungsten surface modification by compression plasma flow impact
17:00-17:15	Poskakalov. Structure transformation of tungsten under deuterium and helium plasma heat loads