

19 conference

«Plasma-surface interaction»

Section №1

Thursday, 28 jan

start at 10.00

Main hall (main building 3 floor)

Chairman – prof. Leon Begrambekov

10.00-10.05	Opening
10.05-10.20	V. Kurnaev <i>National research nuclear university "Moscow engineer physics institute"</i> On the status and prospects of research in the field of fusion with magnetic confinement in Russia
10.20 – 10.35	I. Pozdnyak ^{1,2} , V. Safronov ^{1,2,3} , V. Thsibenko ^{1,2} ¹ <i>Troitsk institute of innovation research</i> ² <i>Moscow institute of physics and technology</i> ³ <i>ITER project center Moscow</i> The movement of the molten metal layer under the influence of intense plasma thermal loads typical of the ELM-s and disruption of the ITER
10.35 – 10.50	I. BORODKINA ^{1,2} , D. BORODIN ² , S.BREZINSEK ² , I.V. TSVETKOV ¹ , V.A. KURNAEV ¹ , C.C. KLEPPER ³ , A. LASA ³ , A. KRETER ² and JET CONTRIBUTORS* <i>EUROfusion Consortium, JET, Culham Science Centre, Abingdon, OX14 3DB, UK</i> ¹ <i>National Research Nuclear University (Mephi), Kashirskoe sh., 31, Moscow, Russia</i> ² <i>Forschungszentrum Jülich GmbH, Institut für Energie- und Klimaforschung - Plasmaphysik, 52425 Jülich, Germany</i> ³ <i>Oak Ridge National Laboratory, Oak Ridge, TN 37831-6169, USA</i> *See F. Romanelli et al., Proc. of the 25th IAEA Fusion Energy Conference 2014, Saint Petersburg, RF Surface biasing influence on the physical sputtering of plasma-facing components in fusion devices
10.50 – 11.05	A. Eksaeva ¹ , E. Marenkov ¹ , D. Borodin ² , A. Kreter ² , M. Rainhart ² , A. Kirshner ² , U. Romasnov ² , S. Bresinsek ² ¹ <i>National research nuclear university "Moscow engineer physics institute"</i> ² <i>Forschungszentrum Jülich</i> Effect of long-lived neutral levels of tungsten on the results of spectroscopic measurements in the linear plasma device
11.05 – 11.20	A. Muhrigin ¹ , A. Sherbak ² , S. Mirnov ² ¹ <i>National research university «MEI»</i> ² <i>Troitsk institute of innovation research</i>

	Determining the optimal time of preparation of the discharge chamber of the tokamak T-11M to the operating conditions
11.20 – 11.35	A. Pshenov ^{1,2} , S. Krasheninnikov ^{1,3} , A. Kukushkin ^{1,2} ¹ National research nuclear university "Moscow engineer physics institute" ² National research centre "Kurchatov institute", Moscow ³ UCSD, USA The role of the energy balance in detachment mode
11.35 – 11.50	D. Sinelnikov ¹ , D. HWANGBO ² , S. KAJITA ³ , N. OHNO ² , D. Bulgadaryan ¹ , V. Kurnaev ¹ , D. Kolodko ¹ ¹ National research nuclear university "Moscow engineer physics institute" ² Graduate School of Engineering, Nagoya University, Nagoya 464-0803, Japan ³ EcoTopia Science Institute, Nagoya University, Nagoya 464-8603, Japan Modification of nanostructured surfaces of tungsten and molybdenum as a result of vacuum breakdown
11.50 – 12.10	Coffee break
12.10 – 12.25	V. Afanasev, A. Graizev, P. Kapliya, I. Konstantinovsiy, O. Ridzel National research university «MEI» Quantitative determination of the hydrogen isotopes in the constructional materials based on spectroscopy peaks elastically scattered electrons and X-ray photoelectron spectroscopy
12.25 – 12.40	E. Marenkov ¹ , S. Krasheninnikov ^{1,2} , Y. Gasparyan ¹ ¹ National research nuclear university "Moscow engineer physics institute" ² UCSD, USA Influence of multitrapp transport of hydrogen in solid
12.40- 12.55	A. Popkov, S. Krat, Y. Gasparyan, A. Pisarev National research nuclear university "Moscow engineer physics institute" Study of the interaction of lithium-deuterium films with atmospheric gases
12.55 – 13.10	V. Efimov ¹ , A. Poskagalov ¹ , Y. Gasparyan ¹ , K. Bistrov ² ¹ National research nuclear university "Moscow engineer physics institute" ² FOM Institute DIFFER – Dutch Institute for Fundamental Energy Research, Partner in the Trilateral Euregio Cluster, the Netherlands Determination of helium in tungsten fuzz by thermal desorption spectroscopy
13.10 – 14.15	Lunch
14.15- 14.50	S. Barengolts ¹ , G. Mesyats ² , I. Ujmanov ³ , M. Tsventoukh ² , D. Shmelev ³ ¹ Prokhorov General Physics Institute ² Lebedev Physical Institute ³ Electrophysics institute, Yekaterinburg

	Development of the model of initiation of explosion emission pulses in the plasma surface interaction
14.50-15.05	L. Begrambekov, A. Vojtonuk, A. Zakharov <i>National research nuclear university "Moscow engineer physics institute"</i> Development and testing of electrostatic probe for dust particles collection in fusion devices
15.05-15.20	AIRAPETOV, L. Begrambekov, I. Gretskeya, A. Grunin, M. Djachenko, N. Puntakov, Y. Sadovskiy <i>National research nuclear university "Moscow engineer physics institute"</i> Deposition of the boron carbide coating on a tungsten atomic flux of boron and carbon
15.20-15.35	V. Efimov ¹ , Y. Gasparyan ¹ , A. Pisarev ¹ , B. Khripunov ² , V. Kojdan ² , A. Razanov ² ¹ <i>National research nuclear university "Moscow engineer physics institute"</i> ² <i>National research centre "Kurchatov institute", Moscow</i> An analysis of the accumulation of deuterium in tungsten after irradiation by fast ions and deuterium plasma
15.35-15.55	Перерыв на кофе
15.55-16.10	D. Bernt ¹ , V. Ponomarenko ¹ , A. Pisarev ² ¹ ООО «PilkingtonGlass» ² <i>National research nuclear university "Moscow engineer physics institute"</i> Studying ways to provide oleophobic surface properties of thin-film optical coatings deposited by plasma magnetron discharge
16.10-16.25	T. Stepanova ¹ , A. Kasiev ¹ , M. Atamanov ² , H. Izmailova ³ , A. Tumarkin ¹ , M. Kharkov ¹ , M. Berdnikov ¹ , A. Pisarev ¹ ¹ <i>National research nuclear university "Moscow engineer physics institute"</i> ² ЗАО «Inakotek», Москва ³ UFMO Magnetron sputtering TiN protective coatings on products of alloy Al-Cu-Ag-Mg-Mn
16.25-16.40	L. Begrambekov, A. Zakharov, A. Kaplevskiy, Y. Sadovskiy <i>National research nuclear university "Moscow engineer physics institute"</i> Degassing of the walls of the vacuum chamber during plasma irradiation with a mixture of oxygen
16.40-16.55	G. Tarasuk ¹ , V. Kozlova ¹ , A. Richagov ² , K. Denshikov ³ , A. Pisarev ¹ ¹ <i>National research nuclear university "Moscow engineer physics institute"</i> ² A.N. Frumkin Institute of Physical chemistry and Electrochemistry ³ Joint Institute for High Temperatures Plasma treatment of the carbon electrode supercapacitor

16.55-17.10	<p>A. Evsin¹, L. Begrambekov¹, I. Vahitov², A. Gumarov², N. Kashapov², A. Luchkin², L. Tagirov², N. Janilin²</p> <p>¹ <i>National research nuclear university "Moscow engineer physics institute"</i> ² <i>Kazan state university</i></p> <p>Effect of plasma surface modification of zirconium to the capture of deuterium atoms under irradiation with thermal energies</p>
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Section №2

Friday, 29 jan **start at 10.00**

Main hall (main building 3 floor)

Chairman – prof. V. Kurnaev

10.00-10.20	<p>G.VAN OOST^{1,2}</p> <p>¹ <i>Department of Applied Physics, Ghent University, Belgium</i> ² <i>National Research Nuclear University "MEPHI", Kashirskoe sh. 31, Moscow, Russia</i></p> <p>THE EUROPEAN FUSION R&D PROGRAMME</p>
10.20-10.40	<p>A. Kukushkin^{1,2}, H. Paher³</p> <p>¹ <i>National research centre "Kurchatov institute", Moscow</i> ² <i>National Research Nuclear University "MEPHI", Kashirskoe sh. 31, Moscow, Russia</i> ³ <i>INRS-EMT, Varennes, Québec, Canada</i></p> <p>Neutrals - a main factor in the ITER divertor</p>
10.40-11.10	<p>I. Lublinskiy¹, A. Vertkov¹, M. Zharkov¹, E. Azizov², V. Vershkov², S. Mirnov³, V. Lasarev³</p> <p>¹ <i>PLC «Red Star», Moscow</i> ² <i>National research centre "Kurchatov institute", Moscow</i> ³ <i>Troitsk institute of innovation research</i></p> <p>Complex lithium and tungsten limiter tokamak T-10 for ECR plasma heating capacity of up to 3 MW. Purpose, structure, results of the first experiment</p>
11.10-11.30	<p>I. Lublinskiy^{1,2}, A. Vertkov¹, O. Sevrukov², M. Zharkov¹, V. Shumsiy², A. Ivannikov²</p> <p>¹ <i>PLC «Red Star», Moscow</i> ² <i>National research nuclear university "Moscow engineer physics institute"</i></p> <p>The choice of materials of liquid metal capillary systems intrachamber tokamaks elements in contact with the plasma, based on tin</p>
11.30.-11.50	<p>N. Klimov^{1,2}, V. Barsuk¹, A. Yaroshevskaya¹, N. Danilina¹, Y. Gasparyan², A. Putrik¹, D. Kovalenko¹, V. Podkovirov¹, A. Zhitluhin¹</p> <p>¹ <i>Troitsk institute of innovation research</i> ² <i>National research nuclear university "Moscow engineer physics institute"</i></p> <p>An experimental study of the formation of cracks on the surface</p>

	of a pure tungsten and tungsten coated with a thin protective layer of low-melting metal, the plasma heat loads typical of transient plasma processes ITER
11.50-12.10	Coffee break
12.10-12.30	U. Martinenko <i>National research centre "Kurchatov institute", Moscow</i> <i>National research nuclear university "Moscow engineer physics institute"</i> The impact of plasma flows characteristic of failures and ELMs on metals: drip erosion, the movement of the molten layer and the shielding layer plasma
12.30 - 12.50	L. Begrambekov <i>National research nuclear university "Moscow engineer physics institute"</i> Hydrogen penetration through the surface of the metal oxide layer
12.50-13.10	S.Krat ^{1,2} , Y. Gasparyan ¹ , A. Pisarev ¹ , M. Majer ² , U. Von Tounsent ² , P. Coad ³ , A. Widowson ³ , participants of JET EFDA ⁴ ¹ <i>National research nuclear university "Moscow engineer physics institute"</i> ² <i>Max-Planck-Institut für Plasmaphysik, Garching, Germany</i> ⁴ <i>See Φ. Romanelly, 25th IAEA FusionEnergyConference 2014,</i> Comparison of the deposition in the shadow areas of the divertor tokamak JET and ITER in carbon-like campaigns
13.10-13.30	O. V. OGORODNIKOVA ¹ , S. MARKELJ ² , U. VON TOUSSAINT ³ ¹ <i>National Research Nuclear University "MEPHI", Kashirskoe sh. 31, Moscow, Russia</i> ² <i>Jožef Stefan Institute and Association EURATOM-MHEST, Jamovacesta 39, 1000 Ljubljana, Slovenia</i> ³ <i>Max-Planck-Institut für Plasmaphysik, Boltzmannstr. 2, D-85748 Garching, Germany</i> Penetration, diffusion and trapping of deuterium in tungsten under exposure to thermal atomic beam
13.30-14.30	Lunch

Chairman - prof. Y. Martynenko

14.30 – 14.50	M. SKAKOV, A. KOLODESHNIKOV, B. RAHADILOV, T. TULENBERGENOV, I. Sokolov <i>Branch of the Institute of Atomic Energy of the National Nuclear Center</i> <i>Republic of Kazakhstan</i> Effect of plasma on molybdenum and tungsten as candidate materials fusion reactor
14.50-15.10	A. AIRAPETOV, L. Begrambekov, I. Gretskeya, A. Grunin, M. Djachenko, N. Puntakov, Y. Sadovskiy <i>National research nuclear university "Moscow engineer physics institute"</i> Temperature cycling and radiation flux of hydrogen ions high

	power density tungsten layers deposited on tungsten
15.10-15.30	N. Degtarenko, A. Pisarev <i>National research nuclear university "Moscow engineer physics institute"</i> Simulation of the behavior of the atomic hydrogen on the surface and an array of tungsten
15.30-15.50	V. Alimov ^{1,2,3} , Y. Hatano ³ , N. Yoshida ⁴ , H. Vatanabe ⁴ , M. Ojaidzy ⁵ , M. Tokitani ⁶ , T. Hajashi ⁵ ¹ <i>A.N. Frumkin Institute of Physical chemistry and Electrochemistry RAS (IPCE RAS), Moscow</i> ² <i>National research nuclear university "Moscow engineer physics institute"</i> ³ <i>Hydrogen research center, Tojama, Japan</i> ⁴ <i>Applied mechanic institute, Kusu institute, Japan</i> Surface modification and erosion low activated ferritic-martensitic steel F82H under irradiation of low-energy deuterium plasma
15.50-16.10	<u>V.L. BUKHOVETS</u> ¹ , A.E. GORODETSKII ¹ , R.Kh. ZALAVUTDINOV ¹ , A.P. ZAKHAROV ¹ , E.E. MUKHIN ² , A.G. RAZDOBARIN ² ¹ <i>A.N. Frumkin Institute of Physical chemistry and Electrochemistry RAS (IPCE RAS), Moscow</i> ² <i>Joffe Physical-Technical Institute of the Russian Academy of Sciences, Saint Petersburg</i> Sputtering molybdenum and aluminum into D₂ / N₂ discharge plasma cleaning
16.10-16.40	Discussion
17.00	Welcome together (103, building 33, Plasma Physics Department)