Roman Rakhmanov

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To applicate my knowledge and experience in Research and Development or Engineering positions.

WORK EXPERIENCE

Engineer

Plasma Surface Interaction group   -   Москва - June 2014 to March 2015

• Plasma Vapor Deposition of B4C coatings and intermediate W-C-BC layer on tungsten substrate.
• Irradiation of B4C coatings and redeposited tungsten layers on a tungsten substrate with thermal loads, ion and electron beams with energies up to 16 keV (modeling ITER relevant conditions).
• Analysis of the samples using SEM microscope combined with EDS attachment.
• Boron powder modification under influence of heat, electric field and particle irradiation
• Performed hydrogen ions implantation into metals for further TDS analysis.
• Prepared metal, including refractory metals, substrate surface by polishing and cleaning it using ultrasonic bath.
• Employed ion figuring technique.
• Developed and mounted plasma chamber.
• Operated quadrupole mass spectrometer (QMS) and analyzed obtained data.
Leadership/Teamwork

Guided undergraduate students course work experiments on operating high vacuum plasma installations under high voltage.
Provided consultations on modelling of electron optic systems using SIMION 8
Participated in organizing ROSATOM (Russian Federal Atomic Energy Agency) anniversary.

Engineer

MEPhI Department of Plasma Physic - September 2013 to May 2014

• Development of the High-Voltage cylindrical mass analyzer with pre-retarding system.
• Design and modeling of cylindrical electrostatic analyzer with pre-retarding system and investigation of the characteristics using Solid Works and SIMION 8 software.
• Enhanced resolution of the cylindrical analyzer and increased its range of use for high-energy experiments on Plasma Diagnostic and Plasma Surface Interactions

EDUCATION

M.S. in Plasma Physics

Moscow Engineering Physics Institute
September 2009 to March 2015

ADDITIONAL INFORMATION

Skills
Computer: MS Windows, Unix operating systems, Solid Works, Simion, Origin, ANSYS, LATEX, MATLAB, Python, Pascal, TEFLEX CAD, MS Office, SEM microscope software.
Laboratory: PVD, EDS, SEM, Vacuum Deposition, High Voltage (up to 30 kV)

Electrical Engineering, High Vacuum System Design-and-Planning and Mounting.
Stationary and manual power tools.
Optical pyrometer.