

This special volume contains the proceedings of “International Workshop on Physical and Chemical Processes in Atomic Systems”. The conference was held in Moscow, Russian Federation in 15–17 November, 2015.

The organizers of the conference are

- National Research Nuclear University “MEPhI” (Moscow Engineering Physics Institute).
- SSC RF “Troitsk Institute of Innovative and Thermonuclear Research”

This newly organized international workshop consisted of oral invited lectures which contained detailed reviews on selected topics and numerous posters.

The wide range of fundamental and applied physical and chemical processes in various atomic systems has been considered during the meeting. The main topics of the conference were physics of separation processes, including separation of isotopes in rapidly rotating flows, selective transport phenomena in membranes, water treatment, physical phenomena connected with separation science such as physics of surface and colloids, extremal gas dynamics and porous medium.

As is known, the study of physical and chemical processes in atomic systems requires the use of diverse physical and chemical methods. So a fair amount of reports are focused on development of new instruments and techniques for the research of multiple phenomena in atomic systems.

Some reports presented in the proceedings have been considerably modified by their authors after discussion held during the workshop. Besides, it was decided to include in the proceedings a few additional posters corresponding to a scope of the meeting as a result of a round table final discussion.

The interest shown by Russian and foreign scholars either to the forum format or the subjects of reports, gives hope for a continuation of this meeting.

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