



XVIIIth Symposium and School on High Resolution Molecular Spectroscopy

HighRus-2015
June 30 – July 4, 2015
Tomsk, Russia

Second circular

The XVIIIth Symposium and School on High Resolution Molecular Spectroscopy (HighRus-2015) will be held on June 30 – July 4, 2015, in the town of Tomsk, Russia. Within the framework of the Symposium, lectures and training seminars for young scientists will be organized. All activities of the Symposium will be held in the V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk.

Organizers

V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk, Russia
National Research Tomsk State University, Tomsk, Russia
Research council on atomic and molecular spectroscopy RAS, Moscow, Russia

Co-chairmen

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Program committee

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Vladimir G. TYUTEREV (France)
Andrei A. VIGASIN (Russia)

Local committees

<u>Symposium</u>	<u>School</u>
Yu.N. Ponomarev – <i>chair</i> L.N. Sinitsa S.N. Mikhailenko	V.I. Perevalov – <i>chair</i> B.A. Voronin

Program of the symposium

The symposium will cover a wide range of topics concerning high resolution molecular spectroscopy and its applications including:

1. High resolution spectroscopy of molecules, including radicals, ions, complexes, molecules in nanostructures.
2. Theory of molecular systems and computational methods.
3. Spectroscopy of intermolecular interactions in gases.
4. Spectroscopic aspects of intramolecular dynamics and photodissociation.
5. Experimental techniques, methods and applications.

The symposium schedule will include

- Invited lectures (up to 45 min).
- Oral presentations (15 min).
- Poster sessions.
- Lectures and training seminars for young scientists.

Preliminary list of invited speakers

- **Jens-Uwe Grabow** (*Gottfried Wilhelm Leibniz Universität Hannover; Institut für Physikalische Chemie und Electrochemie, Hannover, Germany*)
Microwave coherence spectroscopy: How to use real high resolution – and why
- **Olivier Pirali** (*SOLEIL Synchrotron, Gif-sur-Yvette; University Paris-Sud, Orsay, France*)
Using synchrotron radiation for high resolution molecular spectroscopy in the terahertz
- **Evgeni N. Chesnokov** (*Institute of Chemical Kinetics and Combustion of SB RAS, Novosibirsk, Russia*)
Coherent effects in the terahertz region and their spectroscopic applications
- **Frédéric Merkt** (*Swiss Federal Institute of Technology (ETH Zurich), Zurich, Switzerland*)
High resolution spectroscopy of high Rydberg states
- **Claude Leforestier** (*Université de Montpellier II, Montpellier, France*)
Water clusters spectroscopy: a stringent test of first-principles bulk water potentials
- **Nina N. Lavrentieva** (*V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk, Russia*)
Calculation of rovibrational line broadening and shifting of symmetric and asymmetric top molecules
- **Amanda Ross** (*Université Claude Bernard Lyon 1, Villeurbanne, France*)
Laser spectroscopy of some MH molecules, with "astrophysical overtones"
- **Michael C. McCarthy** (*Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, USA*)
Detection and structures of unusual reactive oxygen molecules
- **Adriana Predoi-Cross** (*University of Lethbridge, Lethbridge, Canada*)
Challenges and applications of synchrotron based and laser based - line shape studies
- **Anna A. Fedorova** (*Space Research Institute, Russian Academy of Sciences, Moscow, Russia*)
High-resolution spectroscopy to study the atmospheres of terrestrial planets
- **Sandra Brünken** (*Universität zu Köln, Cologne, Germany*)
Rotational action spectroscopy in cryogenic ion traps

School for young scientists

The School for young scientists consists in seven lectures and three training seminars. The preliminary program includes

Lectures

- **Dmitry A. Varshalovich** (*Saint-Petersburg State Polytechnic University, Saint-Petersburg, Russia*)
High resolution spectroscopy and modern cosmology
- **Laurence S. Rothman** (*Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, USA*)
The power of print: the history of one journal, JQSRT, and how to prepare your manuscript
- **Elena A. Pazyuk** (*Moscow State University, Moscow, Russia*)
Spectroscopy of excited diatomic states beyond adiabatic approximation
- **Sergei N. Yurchenko** (*University College London, London, Great Britain*)
High resolution spectra of molecules with variational methods

- **Vyacheslav I. Zakharov** (*Ural State University, Ekaterinburg, Russia*)
Remote sensing of the atmosphere using satellite and ground-based high resolution IR spectrometers
- **Yurii I. Baranov** (*World Data Center, Obninsk, Russia*)
Collision induced absorption by the major atmospheric gases
- **Igor V. Ptashnik** (*V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk, Russia*)
Water vapour continuum absorption: history, hypotheses, experiment

Tutorials

- **Mikhail V. Doronin** (*Université Pierre et Marie Curie, Paris, France; Institute of Applied Physics RAS, Nizhny Novgorod, Russia*)
Obtaining molecular data from VAMDC
- **Alexander Z. Fazliev** (*V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk, Russia*)
Spectral data quality
- **Semen N. Mikhailenko** (*V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk, Russia*)
SPECTRA - interactive tool for molecular spectroscopy

Registration

The online registration will be opened from **January 15, 2015** at the symposium web site. You can also download our fill-out-form from <http://symp.iao.ru/en/hrms/18/auxinfo> or request it by e-mail from the Organizing Committee (highrus@iao.ru).

The registration fees are given in the table below. The price includes the conference participation, publication of the abstracts and proceedings, a banquet and a one excursion to Tomsk.

Instructions for payment will be available on the symposium web site at <http://symp.iao.ru/en/hrms/18/auxinfo> starting January 15, 2015.

	Registration fees (in EUR)	
	before May 15, 2015	after May 15, 2015
Regular participant	200	250
Young participant (up to 35 year old)	150	200
Student, PhD student	100	150
Accompanying person	100	150

Accommodation

The number of Symposium attendees is limited to 150. They will be accommodated in the Rubin hotel (<http://rubin.tomsk.ru/en/>) which is comfortable and conveniently located. The hotel rates are between 900 rubles (~20 euros) and 5000 rubles (~90 euros) per person per night. Detailed information about the hotel and booking can be found on the hotel web site <http://rubin.tomsk.ru/en/numbers/numbers.html>. The attendees have to make their own arrangements for accommodation.

Abstract submission

The abstracts have to be submitted before May 1st, 2015 using the online registration form or by e-mail to Semen Mikhailenko (highrus@iao.ru). They should be prepared in "MS Word for Windows" formats (DOC, RTF). The abstract must fit on one A4 page (11pt Times New Roman typeface, all text single-spaced) including title, list of authors, text, figures, and references. An example of an abstract can be downloaded from <http://symp.iao.ru/en/hrms/18/auxinfo> after January 15, 2015.

Publications

The Book of Abstracts will be published before the beginning of the symposium. In addition, contributions presented at the symposium will be published separately as an electronic book of proceedings located on the symposium web site. Guidelines for preparing papers will be available on the symposium web site at <http://symp.iao.ru/en/hrms/18/auxinfo> before May 1st, 2015. Authors are invited to submit their manuscripts in electronic form to the Organizing Committee before October 1st, 2015.

Journal of Quantitative Spectroscopy & Radiative Transfer Special Issue

The Journal of Quantitative Spectroscopy & Radiative Transfer invites submission of articles related to the topics of the oral contributions and posters presented at HighRus-2015 in Tomsk. The manuscripts must conform to the requirements set for research articles and will be reviewed accordingly. The manuscripts must be submitted by October 1, 2015.

Authors are requested to choose an Article Type name upon submission, and the special issue name of “SI:HighRus-2015” should be selected. The submission system will be available from **1 July 2015** at <http://ees.elsevier.com/jqsrt/>.

Some important dates

15 th January 2015	Start of registration and abstract submission
10 th April 2015	Third announcement
1 st May 2015	Deadline for abstract submission
15 th May 2015	Publication of the symposium program
1 st June 2015	Fourth announcement
15 th June 2015	Deadline for registration

All information related to HighRus-2015 will be posted on the symposium website at:
<http://symp.iao.ru/en/hrms/18>.

Address of the Symposium organizing committee

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We are looking forward to seeing you at the Symposium and School!