

Eleventh International Colloquium on Atomic Spectra and Oscillator Strengths for  
Astrophysical and Laboratory Plasmas (Mons, Belgium, 5–9 August 2013)

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## Editorial

# Eleventh International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (Mons, Belgium, 5–9 August 2013)

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The 11th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS11) was held in Mons, Belgium, from August 5–9, 2013. It was the 11th in a series started in Lund, Sweden, in 1983. Then followed the meetings in Toledo, USA (1986), Amsterdam, The Netherlands (1989), Gaithersburg, USA (1992), Meudon, France (1995), Victoria, Canada (1998), Belfast, UK (2001), Madison, USA (2004), Lund, Sweden (2007), and Berkeley, USA (2010).

The purpose of ASOS conferences is to bring together ‘producers’ and ‘users’ of atomic data to ensure optimal coordination. Atomic physicists studying the structure of atoms and their radiative and collisional properties are invited to describe the latest progress of their discipline, while astrophysicists and laboratory plasma physicists are invited to review their current research and the context in which atomic data are needed.

The ASOS11 conference was attended by 93 registrants from 23 different countries who had the opportunity to hear 10 invited talks and 34 oral presentations, as well as to see and discuss about 68 posters. The main topics tackled during the meeting were the following:

- Atomic lifetime and oscillator strength determination;
- Hyperfine structure and isotope shifts;
- Theoretical modeling and computational approaches;
- Laboratory techniques;
- High resolution spectroscopy;
- Trapped ions;
- Tests of fundamental constants;
- Highly charged ions;
- Collisional processes;
- Atomic databases and related topics;
- Astrophysical and laboratory plasmas;
- Atomic data needs;
- Spectroscopic diagnostics of fusion plasmas;
- Topics in astrophysics including elemental abundance determination;
- Atomic spectra from HED plasmas and polarization.

All the abstracts were collected in the ‘Scientific Program and Abstract Booklet’ published by the Presses Universitaires Montoises and edited by Pascal Quinet (Mons and Liège), Patrick Palmeri (Mons), Emile Biémont (Mons and Liège), Vanessa Fivet (Mons) and Thierry Bastin (Liège). The current special issue of *Physica Scripta* contains contributions from invited speakers of the conference whose work was accepted for publication after a peer-review process.

At the opening session of the Mons colloquium, we were honored to celebrate the retirement of Professor Emile Biémont after 40 years of outstanding input to atomic physics. Emile has led the Astrophysics and Spectroscopy group at the University of Mons for the last 25 years and has made major contributions to the study of atomic spectra and their applications in astrophysics and plasma physics. As an example, his pioneering works on the determination of radiative parameters in neutral and lowly ionized heavy elements belonging to the rare-earth group as well as to the fifth and the sixth rows of the periodic table will indisputably have major impact on atomic spectroscopy for a long time to come.

We are grateful to the members of the International Scientific Committee who helped us set up the scientific program and to all referees who reviewed the manuscripts published in this volume. Many thanks must also be given to the Local Organizing Committee from which helpful guidelines emerged. The very high level of scientific presentations and discussions, but also the social events during the conference, made ASOS11 in Mons an unforgettable experience. The welcome reception in Mons City Hall, the guided tour of Saint Feuillien Brewery, the outing in Brussels City Center, and the delicious conference dinner at Chateau du Lac will be firmly implanted in our memories.

The ASOS11 conference budget was balanced, thanks to the financial support from the Research Council of Mons University, the Belgian National Fund for Scientific Research F.R.S.–FNRS, the Wallonia-Brussels Federation, and the Doctoral School METAMORPHOSE. Finally, we would like to thank the Mons University Extension for logistic assistance, in particular Fanny Lallemand who helped us a great deal in solving many practical problems before and during the event.

The 12th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas is scheduled to be held in Sao Paulo, Brazil, in 2016. There is no doubt that this next ASOS12 conference, together with the 2014 Football World Cup and the 2016 Summer Olympic Games, will really make of Brazil ‘the place to be’ in the next few years!

### **ASOS International Organizing Committee**

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 Vanessa FIVET, Université de Mons



**Figure 1.** The ASOS11 conference attendees.

Michel GODEFROID, Université Libre de Bruxelles  
Nicolas GREVESSE, Université de Liège  
Raymond KOCH, Université de Mons and Ecole Royale Militaire  
Muriel LEPERE, Université de Namur  
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