

SIG11

Reported Period: 2009-2010

Report Date: 20.05.2010

Reported by: Leonid Dubrovinsky, Alfonso San Miguel, Karen Friese

1. Introduction. (50 words max.)

For the reported period SIG11 concentrated its activity on organizing conferences and workshops. Special attention was paid to participation of young scientists in the schools and workshops. SIG11 is also actively taking part in discussions regarding the new initiative of the European high-pressure community in organising "Partnership for Extreme Conditions Science - PECS" at the ILL-ESRF site in Grenoble. The goal of PECS is to facilitate and develop experimental setups at both ILL and ESRF that could bring great benefits for the high-pressure crystallography community.

2. SIG web site:

SIG11 NO

3. Number of ECA individual members registered with the SIG according to (<http://www.xray.cz/eca/im-payment.htm>)

SIG11 Crystallography under Extreme Conditions 50

4. Existence of a SIG mailing list Yes / No

Address of the mailing list: <http://list.ehu.es/mailman/listinfo/ecasig11>

Number of members in the SIG mailing list : 126

5. Approximate total number of researchers involved in the SIG (please indicate the basis for the estimate)

About 150 people based on the number of participants of MS at ECM25/26 organised by SIG11 and the number of members of the SIG mailing list

6. List of MS organized by the SIG at the last ECM

ECM25, Istanbul, Turkey

Microsymposia

- Crystallography of Functional Materials under Challenging Experimental Conditions
- Crystallography at the High Pressure

Plenary Lectures

- Prof. Vladimir Dmitriev
Phase Transitions in Nano- and Bulk-Materials at Elevated Pressures and Temperatures
- Prof. Andrzej Katrusiak
High Pressure Crystallography, Weak Interactions and Electron Density

ECM26, Darmstadt, Germany

Planned Microsymposia

- High-Pressure Crystallography at Elevated Temperatures;
- Structure and Properties of Functional Materials at Extreme Conditions;
- Phase Transitions in Minerals and Their Planetary Effects;
- Aperiodic Crystals at Non-Ambient Conditions

Plenary Lecture:

Prof. M. McMahon (UK)
- Single Crystal Diffraction Studies at Multimegabar Pressures"

7. Prizes sponsored/coordinated

8. Past Activities other than Microsymposia at ECM

Title: 47th European High Pressure Research Group Conference, Paris, France, 6.09-11.08.2009.
Sponsors/Organizers: Organized by Prof. A. Polian and Paris University. SIG11 officers and members are part of Scientific Advisory Committee and active participants.

Short Description: The 47th EHPRG is a large scope conference, in line with the rapid increase of high pressure activities in Europe in all areas of physics, chemistry, geosciences, materials synthesis and biosciences. Several sessions were dedicated to subjects closely related to high-pressure crystallography and were attended by more than 100 scientists.

Title: Workshop "Structural studies in Laser Heated Diamond Anvil Cells", 6.07-12.07.2010, Bayreuth, Germany

Sponsors/Organizers: L. Dubrovinsky, Bavarian Geoinstitute, SIG11.

Short Description: The purpose of the workshop is to initiate and expand the basic knowledge of scientists for the performance of high-pressure experiments with laser-heated diamond anvil cells and to provide the basic methodology for the study of structure and properties of materials at high-P,T conditions. We expect about 20 participants.

Title: Workshop "1st Workshop for the Extreme Conditions Beamline at PETRA III, 18.-19.05.2009, Hamburg, Germany

Sponsors/Organizers: HASYLAB/PETRA III, DESY

Short Description: The purpose of the workshop was to provide an overview of the state of the art of high pressure science and to collect opinions and suggestions for the design of the new extreme conditions beamline at the synchrotron PETRA III. SIG officers and members were actively involved in the discussions.

Title: Workshop "Science at high pressure: initiative for the creation of a ILL/ESRF Partnership for Extreme Conditions Science", 9-11.02.2010

Sponsors/Organizers: ESRF/ILL, SIG11 made advertisements, collected opinions of scientists regarding principals of operation and organisation of PECS, and contributed to the program of the Workshop. Number of participants: 70 scientists.

9. Future/Programmed Activities.

Title: 48th European High Pressure Research Group Conference, Uppsala, Sweden, 25-29.09.2010.

Sponsors/Organizers: Organized by EHPRG. SIG11 officers and members are part of Scientific Advisory Committee and active participants.

Short Description: The 48th EHPRG will be a large scope conference. Several sessions will be dedicated to subjects closely related to high-pressure crystallography.

Title: Workshop on "Methods of high-pressure single-crystal diffraction: From data collection to full structure determination", Darmstadt, Germany, August, .2010.

Sponsors/Organizers: Prof. R. Miletich-Pawliczek, SIG11, German High-Pressure Priority Program SPP1236.

Short Description: The aim of the workshop is to teach participants how to perform single-crystal high-pressure X-ray diffraction measurements and to complete the data reduction and analysis to obtain the highest-quality data. The workshop will be tutorial in nature, and include both lectures and hands-on tutorials.

10. Other matters. (50 words max.)

SIG11 is actively participating in discussions regarding the organisation of the "Partnership for Extreme Conditions Science - PECS" on the ILL-ESRF site in Grenoble. The goal of PECS is to facilitate and develop beamline experiments at the both ILL and ESRF. The initiative could be of great benefit to the European high-pressure crystallography community. A special session on PECS organization will take place during the 48th European High Pressure Research Group Conference, Uppsala, Sweden.

11. Brief annual activity report (100 words max.)

The SIG organised two microsymbosia related to high pressure crystallography during ECM25. In addition, during this conference two plenary talks were scheduled which were closely related to the main topic of the SIG. In 2009 the mailing list of the SIG was established, which has currently 125 subscriptions. The SIG has organized workshops and schools which aim at providing experimental and methodological expertise on high pressure crystallography to the scientific community, in particular to its younger members. Other activities of the SIG are focused on the development of new infrastructure at large scale facilities (Partnership for Extreme Conditions Science –ILL/ESRF, PETRA III).

12. List SIG officers, name and e-mail, and specify their main function in the SIG:

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