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SIG: Aperiodic Crystals

Reported Period: 2008-2009

Report Date: 27 May 2009

Reported by: Sander van Smaalen (Chair) and Michal Dusek (Secretary)

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1. Introduction.

The activities of SIG#3 concentrated on conferences and workshops as well as on the maintenance of a WEB site on Aperiodic Crystals.

2. Past Activities.

Title: 10th International Conference on Quasicrystals ICQ10 (Zurich, Switzerland, 6–11 July 2008).

Number of Participants: 150.

Sponsors/Organizers: Walter Steurer, ETH Zurich, Switzerland.

Short Description: The conference covered the following topics related to quasicrystals: formation, stability, mathematical aspects, structure and modelling, surface properties and thin films.

Title: XXI Congress of the IUCr (Osaka, Japan, 23–31 August 2008).

Number of Participants: 2617.

Sponsors/Organizers: Japanese crystallography association; IUCr.

Short Description: Gervais Chapuis delivered a keynote lecture KN25: Incommensurate, composite modulated structures and beyond. SIG#3 was responsible for organization of the microsposium MS70: Crystal chemistry and crystallography of aperiodic crystals. Features of the program Jana2006 were presented in the Software Fayre.

Title: 6th Workshop on Structural Analysis of Incommensurate Crystals (Bayreuth, Germany, 5–8 March 2009).

Number of Participants: 37.

Sponsors/Organizers: German Crystallographic Association (DGK); Laboratory of Crystallography of the University of Bayreuth, Germany.

Short Description: Lectures covered the basic topics of aperiodic crystallography: introduction to superspace, symmetry, Fourier methods, maximum entropy method, charge flipping and applications. In the computer part the participants could solve real-life examples using the computing system Jana2006.

3. Future/Programmed Activities.

Title: ECM25 (Istanbul, 16–21 August 2009)

Sponsors/Organizers: ECA

Short Description: SIG#3 will participate in microsposium FA4-MS1: Organic and Inorganic Modulated Crystal Structures.

Title: International Conference on Aperiodic Crystals Aperiodic'09 (Liverpool, 13–18 September 2009).

Sponsors/Organizers: Commission on Aperiodic crystals of the IUCr.

Short Description: Triannual meeting covering all aspects of aperiodic crystals.

Title: ACA2009 (Toronto, 2009)

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Sponsors/Organizers: ACA

Short Description: A workshop on Jana2006 will take place in Toronto 22–23 August 2009.

Title: 7th Workshop on Structural Analysis of Aperiodic Crystals (Bayreuth, Germany, March 2011).

Sponsors/Organizers: German Crystallographic Association (DGK); Laboratory of Crystallography of the University of Bayreuth, Germany.

Short Description: Course on superspace crystallography.

4. Other matters.

The web page of SIG#3 at <http://sig3.ecanews.org/> is maintained by Michal Dusek. It contains information on conferences, computer programs, research groups on aperiodic crystals and publications dealing with aperiodic crystals with weekly updates. A major new release of the JANA software has appeared in 2008 (Jana2006).

5. Five year ‘overview’, brief activity report (2005-2009)

During the last five years our activity was focused to workshops and conferences. The SIG#3 was responsible for the organisation of microsymposia at the International Meetings organised by the ECA (ECM23, Leuven, 2006 and ECM24, Marakech, 2007) and the IUCr (XX Congress of the IUCr, Florence, 2005; XXI Congress of the IUCr, Osaka, 2008). Aperiodic Crystals were also covered by keynote lectures at ECA and IUCr congresses. Furthermore, the following important meetings took place: The International Conference on Aperiodic Crystals APERIODIC2006 (Zao, 2006); the 5th Workshop on Aperiodic Crystals (Bayreuth, 2006); the conference "Quasicrystals–The silver jubilee" (Tel-Aviv, 2007); 10th International Conference on Quasicrystals ICQ10 (Zurich, 2008); and the 6th Workshop on Structural Analysis of Incommensurate Crystals (Bayreuth, 2009). The SIG#3 maintains web pages. In 2006 a new web page emerged in EPFL Lausanne (superspace.epfl.ch) on superspace symmetry, charge flipping and teaching. Workshops about the software Jana2006 were organized in 2006 (Bonn) and 2008 (Copenhagen).

6. Estimated number of active members: 21

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

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Supplementary Materials.

(List of all supplementary materials, if any, related to the SIG report)

- Addendum 1 to n (to be sent in separate files)

NOTE: DO NOT FORGET TO SEND THE UPDATED LIST OF YOUR SIG OFFICERS

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