



Argonne National Laboratory Small-Angle Scattering Discussion Group

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*UNICAT, University of Illinois at Urbana-Champaign
APS User Monthly Meeting, Wednesday, 29 September 2004*

*Small-angle scattering is the premier technique
for the size characterization of nanoscale objects.*

<http://small-angle.aps.anl.gov>



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Mission Statement

The Small-Angle Scattering special interest group at Argonne National Laboratory has been created to promote awareness of the small-angle scattering facilities at the APS, IPNS, and elsewhere on the ANL campus and to foster communications between the various research groups.

Through this group, we believe we can build a strong user community for small-angle scattering at the APS, IPNS, and throughout ANL.



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Guiding Principles

- **C**ooperation
 - **C**ollaboration
 - **C**orrelation
 - **C**alibration
 - **C**how (**c**holesterol)



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Communications

- **Membership**

- open to all

- **Email list server**

- `small-angle@aps.anl.gov`
- hosted by APS

- **Monthly meetings**

- (usually) first Tuesday of each month, noon, 438C

- **WWW site**

- <http://small-angle.aps.anl.gov>
- hosted by UNICAT



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Organizational Information

- What is the group?
 - *ad hoc* discussion of small-angle scattering – very informal
- How was group formed?
 - After years of incubating the idea of a focus group, a core group (Jemian, Thiyagarajan, Irving, Ilavsky, Quintana, Cookson) met and decided on a format
- Who usually shows up?
 - APS & IPNS instrument scientists
 - Users (from ANL and off-site, as well)
 - Attendance averages 15-25/meeting, not just APS
- How many meetings?
 - 24 meetings since inception (27 June 2002)
- Who has spoken?
 - CAT members & general users who are on-site for beam time (8)
 - Instrument scientists (10)



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Summary of Achievements

- Glassy carbon absolute intensity standard
 - http://www.uni.aps.anl.gov/~ilavsky/Glassy_Carbon_data.htm
- WWW page
 - One-stop source of information for small-angle users
- Education
 - Data evaluation methods
 - Instrumental design principles
 - Group awareness of other facilities at ANL
- Fostered collaboration
- Workshop at 2004 APS Users Meeting
- Fostered communications
 - help grad students get post-doc positions, for example
- ~6 dozen pizzas consumed



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Lessons Learned

- Informality, it promotes useful interaction
- Regular meeting time and place
- Science talks are good
 - ... *BUT* ...
- Occasional discussion-only meetings are essential
- Free lunch draws
 - UNICAT and DND-CAT are primary sponsors (non-DOE funding sources)
 - *Group that presents will sponsor lunch* does not always work



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Future Directions

- Outreach
 - Introduction to small-angle scattering WWW page
- Collaborations
 - Data analysis software
 - Round-robin evaluations
- Standardization
 - More absolute intensity standards
 - Low-angle Q standard
 - sample holders, cells, and environments
- Discussions
 - possible standardization of data format
 - common window materials



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