

## XUV and X-Ray Optics for Synchrotron Radiation (Symposium G)

*Symposium Organizers: P. A. Pianetta, Stanford University; and J. Golovchenko, AT&T Bell Laboratories.*

The symposium on XUV and x-ray optics for synchrotron radiation was primarily concerned with reviewing the state of the art in optical systems and techniques which were being considered for use with synchrotron radiation. Toward this goal, a number of excellent talks were given for both near- and long-term applications.

The opening talks of the symposium covered the status of reflective optical systems. A variety of suggestions were made concerning novel optical systems which could be used with the new generation of high-power synchrotron sources, as well as on the importance of coherence on designs of advanced synchrotron radiation imaging systems. The subsequent talks were in the area of diffractive soft x-ray optics, in particular, layered synthetic microstructures (LSMs) and transmission optics. It was generally agreed that the LSMs have reached a stage now where the surface finish of the substrate is the factor limiting performance, with the LSMs themselves reaching theoretical values. The session on transmission optics started with a discussion on the use of transmission gratings in spectroscopy. Then the topic shifted to zone plates and their use in x-ray microscopy, especially their use as lenses to focus soft x-rays for a microprobe to study biological specimens.

The session on hard x-ray optics encompassed a variety of systems for monochromating x-rays on high-resolution



**Symposium G Chairperson P. A. Pianetta.**

or high-power beam lines. This included techniques for cooling crystals that were being placed in very intense wiggler beams. X-ray topography was also reviewed. The different techniques available with synchrotron radiation were discussed, and a number of examples of topographic studies were given. Finally, the area of x-ray detectors was covered. The detectors that were discussed were not originally designed for synchrotron radiation applications, but it was clear that applications would be found in the not-too-distant future once the detectors had been fully developed.

**Symposium Support:** Blake Industries and Microscience, Inc. **MRS**

### REGISTER EARLY

## 1985 MRS Fall Meeting

**December 2-6, 1985  
Boston, Massachusetts**

- 20 technical symposia
- Over 10 displays of analytical and processing equipment

*Look for registration  
information in the mail.*

## Washington Meeting Addresses Professional Society Meeting Restrictions

Restrictions on the export of certain technical information which is in the public domain within the United States may impact technical societies both directly and indirectly—directly by the requirement that technical sessions be closed to non-citizens if they are to be run, and indirectly by inhibiting the planning of such information exchanges and the submission of research projects to such sessions. Such considerations were among the subjects discussed at a meeting held at the National Academy of Sciences in Washington, DC on April 5. The gathering was jointly sponsored by the National Academy of Sciences, the National Academy of Engineering, and the American Association for the Advancement of Science and was cochaired by their respective representatives, Frank Press (president of NAS), Robert White (president of NAE), and William Carey (executive officer of AAAS).

Twenty-three representatives of technical societies attended the meeting and took the opportunity to describe their organizations' experiences with restrictions on particular topics and their effect. The

Materials Research Society was represented, at the request of MRS President Kaufmann, by MRS member Robert Gottschall of the U.S. Department of Energy. Gottschall indicated to the group that MRS is following this issue closely while having had no specific experiences with it to date.

Further discussions in this area may follow from this meeting but no specific statement of policy or call for action resulted from these particular discussions. President Kaufmann notes that "the MRS External Affairs Committee, chaired by R. L. Schwoebel, is keeping a close watch on the trends in this area as they relate to the activities of the Society."

When asked for MRS's reaction to the issues raised in these discussions, Kaufmann pointed out that "the Society has the dual obligation to act responsibly with regard to government regulations and national security and to promote the exchange of research information which is basic to scientific progress. Along with many other societies, MRS is hopeful of finding a productive way of fulfilling both."