

Symposium for Mullite Processing, Structure, and PropertiesIlhan A. Aksay^{*,*}Department of Materials Science and Engineering and Advanced Materials Technology Center,
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In the December 1989 issue of the *Journal*, the Editors announced that, periodically, collections of articles on a single topic would be published in the *Journal*. Topical issues on "Reliability in Multilayer Ceramic Capacitors" included in the December 1989 issue and the "Electronic Structure of Ceramics" included in the November 1990 issue were the first two examples of this new feature of the *Journal*. This month's issue of the *Journal* includes the third topical issue in the series, "Mullite Processing, Structure, and Properties."

Mullite has received much attention during the last decade as a matrix material for high-temperature composite development, as a substrate in multilayer packaging, and as an infrared-transparent window especially for high-temperature applications. These new interests have sparked extensive studies on the synthesis and processing of mullite and mullite-based composites by molecular and/or colloidal methods. An international workshop on mullite held in Tokyo, Japan, in November 1987, covered much of the progress up to the date of the meeting, and its proceedings have been published by the American Ceramic Society.¹ Since progress has been and continues to be rapid in research concerning mullite, Symposium F of the 43rd Pacific Coast Regional Meeting of the American Ceramic Society, held in Seattle, Washington, October 25–27, 1990, was organized to review the progress during the 3 years following the meeting in Tokyo.² Forty papers were submitted to the symposium, covering all aspects of mullite processing, properties, and structure. A significant number of these papers, and others not presented at the meeting, are included in this issue of the *Journal*, dealing with the current state of mullite research: remaining issues, applications, and future directions. Two additional articles reviewing the status of research on mullite in Japan are included in the October 1991 issue of the *Bulletin*.^{3,4} It is hoped that this topical issue and the articles in the *Bulletin* will provide an introduction to this very promising material for those who are not familiar with it and a useful reference and review for those who are currently working with or have an interest in mullite. One purpose of the symposium was to raise interest in mullite and to encourage additional research into its potential. The sponsorship and interest of the American Ceramic Society is gratefully acknowledged for providing this opportunity to its members and to the general materials community.

Many people were instrumental in ensuring that the articles in this issue were published in a timely manner. We thank the authors for their speedy submission of their manuscripts and their prompt response to the comments of reviewers. Also, we acknowledge the reviewers, whose willingness to suspend other projects to complete the task of reviewing these articles ensured publication. We thank Carolyn Reeder and Melba S. Wallace for their help with the organization of the symposium and for assistance in meeting deadlines related to the review of the manuscripts. Finally, we are grateful to the editorial staff of the Society headquarters for making sure that these topical issues are published in a timely manner.

References

¹Ceramic Transactions, Vol. 6, *Mullite and Mullite Matrix Composites*. Edited by S. Sōmiya, R.F. Davis, and J.A. Pask. American Ceramic Society, Westerville, OH, 1990.

²"Symposium F: Mullite Processing, Structure, and Properties," 43rd Pacific Coast Regional Meeting, *Am. Ceram. Soc. Bull.*, **69** [9] 1526–27 (1990).

³S. Sōmiya and Y. Hirata, "Mullite Powder Technology and Applications in Japan," *Am. Ceram. Soc. Bull.*, **70** [10] 1624–32 (1991).

⁴K. Okada, N. Otsuka, and S. Sōmiya, "Review of Mullite Synthesis Routes in Japan," *Am. Ceram. Soc. Bull.*, **70** [10] 1633–40 (1991).

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