

## Foreword

The Tenth International Thermal Expansion Symposium (ITES) was held in Boulder, Colorado, on June 6–7, 1989. The symposium was sponsored by the Center for Chemical Engineering (now the Center for Chemical Technology) of the National Institute of Standards and Technology. The program consisted of invited and contributed papers and a commercial equipment exhibit.

This topical symposium series started in 1968 and has continued through the current meeting at irregular intervals: past conference dates are 1968, 1970, 1971, 1973, 1975, 1977, 1979, 1981, 1986, and 1989. Sponsorship has included government laboratories, industry, and universities. At various times the ITES has been held jointly with the Thermal Conductivity Conference and the Thermophysical Properties Conference. Beginning with the second meeting, proceedings have been published. The American Institute of Physics published the second symposium's proceedings, Plenum Press published the proceedings for the third through the eighth meetings in special conference volumes, and the ninth and tenth proceedings appear in special issues of the *International Journal of Thermophysics*.

The tenth symposium had a registered attendance of 46 scientists. Papers were presented from Australia, France, Italy, the Soviet Union, Sweden, and the United States. The program covered a wide variety of topics relating to the measurement and analysis of thermal expansion data and to the engineering applications of emerging materials. Theoretical papers and papers addressing the need for standards were particularly appropriate as scientists and engineers strive to deal with the rapidly expanding number of designed materials.

It is my pleasure to acknowledge the support and patience of the authors, the session chairmen, and the referees of the papers. I also acknowledge the support of the secretarial staff and illustrator of the Chemical Engineering Science Division. Without their contribution the task of chairing the symposium would have been very difficult.

Larry L. Sparks  
General Chairman  
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