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Foreword

The 23rd International Electric Propulsion Conference took place in Seattle, Washington, in September 1993. A record setting 208 papers were presented out of a total of 245 abstracts accepted by the conference, making this by far the largest electric propulsion conference ever. The theme of the conference was, The Era of Application, in recognition that electric propulsion is rapidly making the transition from laboratory development to wide spread flight application. The large number of papers at this conference is representative of the growing interest in electric propulsion and recognition of the benefits of its by the aerospace community at large.

In keeping with the strong international character of the Electric Propulsion Conference, approximately half of the papers presented were from outside the United States. Technical and overview papers were presented by a total of ten different countries describing their respective electric propulsion activities including: Austria (1), France (3), Germany (12), Italy (25), Japan (25), Russia (40), The Netherlands (2), UK (12), and USA (119). Of the 245 abstracts submitted 25% were from aerospace companies, 38% from universities and the remaining 37% from government laboratories. A total of 258 people (including 70 university students) attended the conference.

A wealth of technical information on the state-of-the-art in electric propulsion is contained within this volume including approximately 70 papers on arcjet technology, 50 papers dealing with ion propulsion, 35 on MPD/electromagnetic thrusters, and 34 on Hall thrusters of various types (SPT and TAL). It is clear from the state of various thruster technologies and the number of planned and potential flight applications described in these papers that electric propulsion is coming of age. Since the 23rd IEPC four spacecraft have been launched equipped with electric propulsion systems for north-south stationkeeping. The Telstar 401 spacecraft was launched in December, 1993 and has been successfully using hydrazine arcjets for north-south stationkeeping (NSSK). The Russian GALS spacecraft was launched in January, 1994 and has been using xenon-fueled stationary plasma thrusters also successfully for NSSK. The Japanese-built ETS-IV spacecraft equipped with xenon ion engines and the arcjet-equipped Telstar 402 spacecraft were launched in August and September of 1994, respectively, but neither achieved their desired final orbits (due to systems unrelated to the electric propulsion systems).

Electric propulsion is clearly poised to significantly expand its role in the aerospace industry. I eagerly look forward to the 24th International Electric Propulsion Conference in Moscow, Russia, in September 1995 when this expanded role should be described in detail.

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