FOREWORD

For over 35 years, radio astronomical techniques have made an impressive series of advances in our understanding of solar phenomena. However, although the subject has been partially discussed in "Paris Symposium on Radio Astronomy" in 1958, NASA-GSFC Symposium on "Physics of Solar Flares" in 1963, and the IAU Symposium No. 57 on "Coronal Disturbances" in 1973, there has not been a major international meeting dedicated to "Radio Physics of the Sun". This is the first major symposium on the subject held under the auspices of the International Astronomical Union. It was jointly sponsored by IAU Commission 40, Radio Astronomy, and by IAU Commission 10, Solar Activity. It was also sponsored by the Solar Physics Division of the American Astronomical Society. This volume contains the proceedings of this meeting, IAU Symposium No. 86 on "Radio Physics of the Sun" that was held in College Park, Maryland, August 7-10, 1979.

The Scientific Organizing Committee of the Symposium consisted of M.R. Kundu (chairman), G.A. Dulk, O. Hachenberg, M. Kuperus, D.J. McLean, D. Melrose, M. Pick, J.L. Steinberg, T. Takakura, A. Tlamicha and V.V. Zheleznyakov. The topics and speakers were chosen in order to emphasize the current observational material with particular reference to centimeter wavelength observations of a few arc-second resolution, fast two-dimensional pictures of the sun at meter-decameter wavelengths and the recent advances in plasma and radiation theory. The symposium was attended by more than 100 astronomers from 15 countries. The main topics discussed were the following: (1) Quiet Sun radiation and model solar atmosphere. (2) Active regions and prominences at centimeter and millimeter wavelengths. (3) Burst radiation at centimeter, meter and decameter wavelengths. (4) Space observations of low frequency (1 MHz or less) bursts. (5) Theoretical models and interpretations of solar active regions and bursts in terms of bremsstrahlung, gyro-synchrotron and plasma radiation processes. (6) Joint radio, white light and x-ray observations of solar radio bursts and active regions (7) One talk each on planetary magnetospheres, and on stellar chromospheres and coronae, emphasizing their similarities with solar radio phenomena.

The meetings were held in the Center of Adult Education on the College Park campus of the University of Maryland. The Local Organizing Committee included M.R. Kundu (chairman), W.C. Erickson (co-chairman), T.E. Gergely (secretary), J.K.

M.R. Kundu and T.E. Gergely (eds.), Radio Physics of the Sun, xi-xii.

Alexander, J.D. Bohlin, E.R. Dyer, F.T. Erskine, S.P. Maran, J.D. Trasco and D.G. Wentzel. Betty Stevenson ably assisted this committee. The National Aeronautics and Space Administration and the National Science Foundation provided grants for the support of the meeting.

During the editing of these proceedings for the press we have been helped considerably by several people. At the meeting, Betty Stevenson initially organized the preparation of the discussion remarks; in addition, Eunice Burton, Alice Eichman, Janice Hall, Maggie Berry, Linda Ball and Dorothea Zitta typed some of the discussion. Betty Stevenson also retyped the discussions and a number of the contributed papers. We are very grateful to each of these people for their help.

This symposium was dedicated to the memory of the late Stefan Frederick Smerd who passed away in December 1978. Since this meeting, another well known solar physicist, Professor Sergei Ivanovich Syrovatskii who was a participant in this symposium died suddenly. Professor Syrovatskii's untimely death came as a shock to all of us. His active participation in all scientific meetings, especially his stimulating discussions and charming personality will be missed by the solar community.

M. R. Kundu

T. E. Gergely