Foreword

The cover picture of this volume displays one of the most advanced products of helioseismic research: a view into the deep interior of the sun, revealing its distinctly non-uniform rotation throughout the entire depth of the convection zone. Just over 20 years ago, the first successful helioseismic experiment disclosed an increase of rotation velocity in the uppermost one dozen megameters below the photosphere. The stunning progress in depth and detail highlighted by the cover diagram (and by others shown in this volume as well) was made possible by considerable advances in instrumentation, by the development of powerful analytical tools and, foremost, by the involvement of new brains of enthusiastic proselytes and newcomers to the field, increasing nearly exponentially in number every year. New branches of research widened the scope of "uranoseismology", as e.g. time- distance seismology (the promising avenue towards small-scale and short-time variability), atmospheric seismology (a new look at strange phenomena we have allways seen, but hardly understood), and finally the growing observational assault on hundreds of individual stars which are either manifestly or supposedly oscillating - i.e. asteroseismology. The formation of numerous solar and stellar observing networks and, ultimately, space missions like SOHO have greatly promoted the potential of this science.

This steady progress was accompanied by workshops, colloquia, and symposia in quick succession. Why should we have planned for yet another one? The previous reunions were chiefly for specialists to talk to and discuss with other specialists in the field. It was strongly felt by the organizers of the present symposium that with the brand new results from busy space missions and humming networks at hand, we should seize the opportunity to present all this to the community of astronomers at large, as represented in Kyoto at the 23. General Assembly of the IAU. Thanks to the excellent cooperation of the invited speakers, the result of their efforts to amalgamate the introductory habit of several of the invited talks with fresh topical research can now be put before the interested reader. Unfortunately, a few invited talks on "Progress and Puzzles in Helioseismology" (keynote talk given by T. Brown), "Recent Results in Time-Distance Helioseismology (T. Duvall), and "Interaction of Convection with Pulsation" (P. Goldreich) are missing in these Proceedings for reasons beyond our control.

It is in the name of the previous Organizing Committee of Commission 12 of the IAU on Solar Radiation and Structure, that I very gratefully acknowledge the assistance of the Scientific Organizing Committee of this Symposium (K. Chitre, J. Christensen-Dalsgaard, V. Domingo, Y. Elsworth, C. Fröhlich, D. Kurtz, J. Leibacher, J. Provost, and H. Shibahashi), and foremost of the two co-editors of the Proceedings, Joergen, and Don, who were immensely helpful whenever practical advice and mental support were needed. As a co-chair of the SOC, Don clearly excelled in promoting the idea of this Symposium most energetically. Many peoples' names would have to be mentioned to thank all the colleagues who supported the organization of this meeting locally and admistratively. It is with deep gratitude that I put here in lieu the names of J.

Andersen (Assistent General Secretary of the IAU) and T. Fukushima (Chairman of the Japanese Local Organizing Committee of the IAU GA).
John Leibacher, in concluding the last session of the meeting, prognosticated that this event would be remembered by all attendents. I am sure that he was referring also to the friendly hospitality and the harmonious spirit of the Japanese culture we, the participants, had experienced.

Würzburg, February 1998 Franz - Ludwig Deubner

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