

PREFACE

On June 17, 1990, more than 100 of the world's best pulsar scientists assembled in the medieval village of Lagów, Poland, for a momentous conference on the magnetospheres and radio emission mechanisms of pulsars. The sessions, held in a 14th century castle, located between two beautiful lakes, were animated and exciting. We reproduce in this volume the contributed and invited papers presented at International Astronomical Union Colloquium Number 128.

The Colloquium had a particularly international and collegial atmosphere. Its setting and timing coincided with the momentous changes which were then occurring—and show every promise of continuing to occur—in Eastern Europe and the Commonwealth of Independent States (CIS), the new name taken by many of the states which comprised the former Soviet Union only last week. Indeed, the conference only became possible because of these changes¹

In a certain sense the Colloquium was historic. It was the first international meeting of astronomers ever, at which participants from what was then called the Soviet Union were proportionately represented. It thus provided the occasion at which Soviet and non-Soviet participants had the opportunity to meet each other, generally for the first time. Most of those who had not before met had been reading each other's papers for years—up to two decades—thus there was a great deal of catching up to do!

Participants attended from fourteen countries: Australia, Brazil, China, Denmark, France, Germany, Greece, India, Italy, Poland, Sweden, the UK, the USA, and the USSR. In fact, the representation from the USSR was also quite diverse with groups attending from Baku, Gor'kii, Kharkov, St. Petersburg (formerly Leningrad), Moscow, Pushchino, and Tbilisi.

The organizers worried until the participants actually stepped off their busses and trains that something would go wrong and, indeed, a number of *serious* last minute difficulties did arise, but virtually everyone who had planned to come did manage to get to Lagów village. Buses carrying western participants from Berlin faced huge queues of Polish traders at the Polish-German border but somehow arrived in time. In Moscow train reservations and permissions disappeared at the last minute and were only reinstated through the heroics of the Soviet members of the Scientific Organizing Committee. Probably the plaudits for travel persistence must go to the Chinese participants who travelled more than a week by train from Beijing through Moscow to Poland.

Once in Lagów, however, we became a community. The lovely isolated, miniature, bucolic character of Lagów village contributed perfectly to this end. The nearest other settlements were several kilometers away and the closest city several hours by car. We thus lived and ate together, occupying all of the accommodations in the village, and the sessions were scheduled in the early morning and late afternoon so that a substantial portion of each afternoon was available for recreation and friendly discussion.

We must thank Sasha Salnikov and his taste for "Country Music" for providing the circumstances which led to the idea for this conference. In January 1988 Sasha and Valerii Malofeev, both from Pushchino, were collaborating in a series of Arecibo/Pushchino observations with Dan Stinebring and ourselves. Upon returning from Puerto Rico we spent two days in Washington, D. C., whereupon it became clear that Sasha was quite passionate about "Country Music". Neither Valerii nor ourselves, to be sure, knew much about this peculiarly American form of music. In due course, however, Mary Fillmore, who helped us host our guests in Washington, led us to the Birchmere, a barn-like music hall in rural Washington so popular with fans that they queue up 1–2 hours in advance to get a table when the doors open. So it was there outside the Birchmere, waiting in the freezing January cold, that we first began to discuss with Valerii where and how a conference might be held that would make it possible for many or most of his pulsar colleagues at home to attend. Sasha had thoughts for nothing but the music ahead, and hours later we literally had to scrape him off the ceiling, transfixed. Without him, however, the opening for this conference might never have occurred.

We have tried to assemble all of the papers contributed to the meeting and to put them into a uniform style. We have taken editorial license at times to improve the clarity where we thought it necessary. Sometimes we have had to guess at what was really intended in the manuscripts. Please forgive us if we got it wrong. In a very few cases we have indicated editorial comments in *slanted* type. In fact, if we had known how difficult and time-consuming this was going to be, we might have done it differently.

¹In fact, these changes have continued at such a pace that the editors have had difficulty keeping up with the changing names of cities and countries. Lest we print designations that will appear archaic in a very short time, we have rather decided to omit all state and country names from the papers below. We have, however, included at the end of the Proceedings the names, addresses, telephone, telex, fax, and electronic mail data for the participants as best we could determine them at the time of printing.

To minimize the cost of printing the Proceedings by reducing the page count, we have sometimes had to reduce figures to fit a half-page column or to print two figures, side by side on the page. Where practical we have printed articles in two-column format to enhance their readability. \LaTeX was used for the typesetting because of its excellent mathematical formula typesetting capabilities, and its automatic generation of the Table of Contents and References. All of the references have been collected and printed at the end of the book. We have checked many but not all of the citations, and have added the titles of as many references as we could find. We know that there remain some errors and inconsistencies in the References, especially when volume and page numbers do not agree in the original and English translation versions of the journals.

Some of the figures are not as clear as we would like them to be. As some of the participants have heard, the complete package of Proceedings papers was lost in shipment from Poland to the USA by DHL Worldwide Express in late 1990. This unfortunate incident has delayed the preparation of the Proceedings considerably, and some of the original figures were lost. In some cases we have had to reconstruct the figures from low signal-to-noise faxes. We hope that the scientific value has been preserved through the editing process. We would like to have redrawn some of the figures, but, in the interests of publishing the Proceedings before the next IAU Colloquium on pulsar magnetospheres, we have chosen to print them as they are.

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Every successful conference depends crucially on the the work of the Local Organizing Committee. We therefore wish especially to thank Professor Janusz A. Gil of the Pedagogical University in Zielona Góra and the other members of the LOC, without whom the Colloquium could not have taken place: Professor Marek Demianski of Warsaw University, Professor K. Bartkiewicz, President of the Pedagogical University in Zielona Góra, Professor W. Rybarczyk, Dean of the Mathematics, Physics and Technology Department of the Pedagogical University in Zielona Góra, and Professor S. Gorgolewski of the Nicolaus Copernicus University in Torun. We would also like to thank the staff of the Astronomical Centre of Zielona Góra, especially Emily Gil and J. Kijak, for their help at various stages of preparation for the Colloquium and for help in running of the meeting.

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TIMOTHY H. HANKINS

JOANNA M. RANKIN

co-Chairs, Scientific Organizing Committee