

Preface

The study of pulsars is a field now almost 30 years old, and Australia has been involved from the start, with the discovery of the Vela pulsar inside the Vela supernova remnant putting the seal on the association of neutron stars with supernova events. Despite this long tradition in pulsar astronomy, with vigorous theoretical and observational groups working in the field, up to 1995 Australia had never hosted a conference on this topic. Thus IAU Colloquium 160 "Pulsars: Problems and Progress", held at the University of Sydney from the 8th – 12th January 1996, was, if nothing else, due. The Colloquium attracted over 150 people from 30 countries, many no doubt drawn by the prospect of a week of Southern summer in the midst of their Northern winter but also, we hope, by the scientific aspects of the meeting.

These proceedings stand as a record of the scientific endeavours considered at the meeting. The proceedings are split into eight parts which reflect the mix of invited talks and posters presented at the meeting. Many different aspects of the "pulsar problem" were considered, ranging from very recent observations of giant pulses and microstructure through aspects of the emission mechanism and into the high energy regime where much progress has been made in recent years. A broad mixture of theorists and observers took part, a mixture which is surely vital to further our understanding of pulsar science. The final part of the book contains the verbatim transcript of a debate on the origin and evolution of millisecond pulsars which was one of the highlights of the meeting.

The motivation and organisation for the meeting came from groups at the Research Centre for Theoretical Astrophysics (University of Sydney), and the Australia Telescope National Facility (CSIRO). These institutions also provided a good fraction of the necessary funds for the conference. It is our pleasant duty to thank all the bodies who provided financial support to the conference: the International Astronomical Union; Australia Telescope National Facility; the Research Centre for Theoretical Astrophysics; Mount Stromlo and Siding Springs Observatory; Anglo-Australian Observatory; International Union of Radio Science and the Donovan Trust.

On behalf of all the participants we wish to record our appreciation of the enthusiastic efforts of the "locals" – not just the Local Organising Committee, but many staff and students who were less visible – who made the conference run; particularly Jenny Thompson and Tom Dan. We would also like to thank Joe Taylor for kindly agreeing to give a public lecture during the Colloquium. Nearly 500 people attended what proved to be an excellent talk.

We hope that participants will also remember the uniquely Australian aspects of the meeting: the bushwalk to the Royal National Park; the battle with the surf at Manly beach; the impromptu games of almost-cricket at lunchtime; and, for many, the first glimpse of the Southern Cross and the Magellanic Clouds as they rose over Sydney Harbour on the night of the conference dinner.

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