

Preface

The IAU Colloquium 190 on Magnetic Cataclysmic Variables (MCVs) was held in beautiful Cape Town in December 2002, right at the Victoria & Albert Waterfront – in the southern summer. It was the third in a series of conferences on MCVs, the first held in Cape Town in 1995 and the second in Annapolis in 1998.

The idea to devote a workshop entirely to MCVs arose in the growing wealth of observational data and fast developing advances in the underlying theory of these objects. Such a workshop gives the astronomical community studying MCVs the possibility to focus solely on these objects in order to understand their physics and phenomenology. The success of previous and this focused workshops confirms the importance of such a meeting.

The launch of *new satellites* such as *XMM-Newton* and *Chandra* opens up new wavelength windows and/or give us greatly increased accuracy of observations in the X-ray, EUV, UV and optical range. A number of papers given at the conference support this development. New ground-based γ -Ray and Radio observations add to the completion of the wavelength coverage of these objects. We thus have a flood of new results from the analysis of these data allowing us to test and refine the current theoretical models.

Tomographic methods are far from exhausted and give us an increasing capability to image the systems. Whether it is traditional Doppler Tomography, Eclipse Mapping or Stokes Imaging, the maps and new analysis techniques allow us to envisage MCVs in increased detail. This allows us to find a common model for the underlying accretion physics and to identify peculiar individuals.

Advances in *theoretical calculations*, partly using numerical simulations on high-performance computers, give better means to understand the underlying physics of accretion and other processes present in these systems.

A **highlight** of the conference was the new observations of low mass-transfer rate systems, discovered through the Sloan and Hamburg surveys. These systems can be extremely faint, and are characterised by cyclotron spectra with large-amplitude narrow humps. Several of these objects have periods in the 2–3 hour range.

The number of participants was restricted due to the size of the lecture hall at the University of Cape Town's Graduate School of Business. Therefore, only scientists who actually work in the field on MCVs were invited to attend the meeting. Beyond this, no restrictions were applied.

The time for the workshop (December 8–13, 2002) was chosen to allow participants to travel to locations on the path of the core shadow of the *Solar eclipse* visible on 4 December 2002 in southern Africa. A number of participants did actually combine a trip to the Solar eclipse sites with a trip to the conference.

This preface is a good opportunity to say **Thank you** to a number of people and organisations:

- We would like to thank *all speakers* for the interesting variety of talks, leading to a very successful meeting. Many thanks also go to *all other participants* who added to the high information content of the meeting through discussion inside the lecture hall, during the breaks and the social events.
- We would like to thank the *University of Cape Town* for financial support of the conference, the *International Astronomical Union* for financial support of a number of participants, the *National Research Foundation* for financing B.S. Shylaja's trip to the conference, and the *South African Astronomical Observatory* for kind hospitality during the Braai.
- Furthermore, we would like to thank *Karin Newton* from the Physics department for kind and patient help with financial issues in spite of an overload of work due to marking at the end of the second semester.
- A big thank you goes to *Chris Wilmans* – the treasurer of the University of Cape Town – for advancing the IAU travel money due to a delay in transfer from the IAU and for securing the money pay-out to the participants.
- We thank *Peter Grant* from the University of Cape Town and *PayGate* for help with the money transfer to the conference fund of the monies paid through the credit card payment option via the conference web-page.
- Thanks go to *Michelle Amon* and her assistants of the Graduate School of Business for help in organising the reception and at the registration desk.
- We also thank the *Medical School* of the University of Cape Town for lending us the poster boards free of charge.
- We thank *Retha Pretorius* for help with passing around the microphones, although unfortunately due to installation error by the sound company nothing of the discussion was recorded on the tapes.
- The only discussion session presented is written by *Domitilla de Martino* who wrote it down from notes and memory. A big thank you to her..
- We thank further *Isobel Basset* for organising the delicious Braai at the South African Astronomical Observatory.
- Dedicated artist and former astronomer *Mark A. Garlick* (space-art.co.uk) is worth a big “thank you” for letting us use his beautiful painting “Magnetic Accretion” on the conference web-site (<http://mensa.ast.uct.ac.za/mcv.html>). It appears on the cover of this book as a blue-scale negative.
- Last but not least, SV wants to thank the *Deutsche Forschungsgemeinschaft* and the *Hamburger Sternwarte* for kind financial support to travel to Cape Town to organise and attend the conference. It is unusual, as the Chair of the LOC is usually locally employed, not 10^4 km away from the conference venue. Furthermore, she thanks her patient family, especially her son Jessie with whom she was pregnant during the conference.

We must apologise for the delay in printing these proceedings, but the first editor was on maternity leave for about half a year in 2003.

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