

Preface

High redshift radio galaxies play an important role in cosmology. It is likely that they are the oldest and most massive galaxies at high redshifts, and as such they place important constraints upon the epoch at which the first generation of stars was formed. There is increasing evidence that they are located at the centres of (forming) clusters, making them excellent markers with which to find clusters at early epochs for subsequent study. The present radio surveys are so large that the amount of clustering within the radio source population can be studied. Furthermore, radio galaxies contain a number of observable components, including stars, gas at various temperatures, dust and relativistic plasma. Since emission from these components can be very luminous, especially when compared to ‘normal galaxies’ at similar redshifts, they can often be studied in great detail, enabling important constraints to be placed on physical models of these components.

At the time of this workshop, the study of distant radio galaxies is undergoing a dramatic revolution.

First, advances in instrumentation are allowing the study of distant radio galaxies in unprecedented detail. High resolution images from the Hubble Space Telescope have provided morphological information on kpc scales, enabling the clumpy structures which make up the distant radio galaxies to be resolved. The subject of dust and molecules at high redshifts is receiving a boost from the recent results of the Infrared Space Observatory (ISO) and the first sub-millimetre bolometric array (SCUBA) on the JCMT. The new generation of 10-m class telescopes are uniquely suited to carrying out detailed spectroscopy on these faint radio galaxies, and the still fainter cluster candidates surrounding them. Detailed Keck studies are already severely constraining the physics of the gas around these systems, and preparations for the Very Large Telescope and Gemini in this area are underway.

Second, several new radio surveys have recently been completed or are at the point of completion. These surveys contain 10 – 100 times more sources than previously published surveys, allowing for the first time large statistical studies of the distant radio sources.

Under the auspices of the *Royal Netherlands Academy of Arts and Sciences*, an Academy Colloquium titled “*The Most Distant Galaxies*” was organised. The colloquium was held in Amsterdam on 15-17 October, 1997. The venue of the meeting was the 17th century “Trippenhuys” a lovely old building in the centre of Amsterdam which is the seat of the Academy.

For the 3 day meeting, the format was that key-speakers gave a 30 minute introduction to the various topics; this was followed by 20 minute contributed talks. Ample time was allowed for discussion, and for short presentations of recent results. The number of participants that were present was 51.

The success of the colloquium can be attributed to a large group of people. The bulk of the work of organising the colloquium was carried out by Manita Giribaldie-Kooy of the KNAW, whom we sincerely would like to thank. The production of the whole book would not have been possible without the invaluable help of Maurits Hartendorp and Martin Storm. We would like to thank them for all their work. The scientific organising committee ensured the scientific quality of the meeting and consisted of P. Barthel (Groningen), P. Best (Leiden), M. Bremer (Leiden/Paris), G. de Bruyn (Dwingeloo), C. Carilli (NRAO), J. Dunlop (Edinburgh), B. Fosbury (ESO, Munich), R. Hunstead (Sydney), M. Lehnert (Leiden), G. Miley (Leiden), S. Rawlings (Oxford), H. Röttgering (Leiden) and H. Spinrad (Berkeley).

The local organising committee provided invaluable support for the meeting and consisted of: P. Best, J. Kurk, M. Lehnert, G. Miley, L. Pentericci, R. Rengelink, H. Röttgering, J. Soulsby and P. van der Werf.

Finally, we would like to thank all of the participants of the colloquium. It was their deeply appreciated contribution both to the meeting and to this book that made the colloquium a success.

The Editors.