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H. Richard Miller Paul J. Wiita (Eds.)

Active Galactic Nuclei

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Editors

H. Richard Miller
Paul J. Wiita
Department of Physics and Astronomy, Georgia State University
Atlanta, GA 30303, USA

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PREFACE

The subject of active galactic nuclei, is, without a doubt, one of the most exciting and rapidly evolving in modern astrophysics. Thus it is clearly desirable to have frequent meetings devoted to this topic in order to bring researchers in the field together, thereby providing them with an opportunity for detailed discussions and a lively interchange of ideas. Because the previous meeting on this general area in the United States, at George Mason University in October 1986, was dominated by theoretical concerns, we felt that this conference, taking place a year later, ought to stress recent observational results. Nevertheless, some exciting new theoretical interpretations were presented and debated.

The over one hundred participants at the GSU conference interacted very well; several new collaborations were developed and some exciting new ideas were expressed. Thirteen invited speakers summarized observations in essentially all wave bands and also expounded varied theoretical opinions. A significant number of moderately long oral contributions were also given, with most other participants presenting poster papers. All of the oral papers presented at the meeting have been included in these proceedings, as have almost all of the poster papers, along with the bulk of the discussion after each oral paper.

Some of the key questions raised or addressed at this meeting included: How many fundamentally different types of active galactic nuclei (AGN) are there, and how are apparently different types related? What can (or cannot) variability of emission in different parts of the spectrum tell us about the size and nature of the central engine? How common are the wiggly, apparently filamentary, structures in radio jets, and do they imply the dominance of magnetic fields in the dynamics? What are the relations between the gas falling into AGN and the gas shooting out of them, especially in light of growing evidence for large scale effects of emerging jets on the appearance of galaxies? What is the nature of the AGN continuum in the millimeter and extreme ultraviolet regions, which have been barely touched by observations? What physical process (or processes) is (are) responsible for the AGN continuum observed over the entire electromagnetic spectrum? While discord remains concerning the answers to all of the above (and many more) questions, the data and interpretations presented at this conference have undoubtedly improved our level of understanding.

The other members of the scientific organizing committee were extremely helpful in suggesting speakers, determining the distribution of travel support, and chairing sessions; we also thank Diana Worrall for chairing a session. Organizational support was provided through the Division of Continuing Education at GSU, particularly by Lisa Coley and Liz Robinowich. Our colleagues at GSU, Ingemar Furenlid, Joseph Hadley Jr., Hal McAlister, and David Wingert, as well as our colleague at Agnes Scott College, Alberto Sadun, helped with logistical support. Student volunteers from GSU, Michael Carini, Alexander Rosen, Sethanne Howard, Ali al-Shukri, Edward Dombrowski, Tom Meylan and Wean Tsay drove the shuttle vans, showed the slides, and helped in many other ways. Agnes Scott students Jennifer Burger, Christy Cechman, Sarah Crane and Amy Lovell assisted with the recording of the discussions. We are most grateful to all of the above, who helped keep the conference running smoothly.

Finally, we express our gratitude to both the National Science Foundation (grant AST-8715488) and to the Division of Continuing Education of Georgia State University, without whose financial support this conference would not have been possible.

Atlanta, February 1988

H. Richard Miller
Paul J. Wiita

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