PREFACE

Since its founding in 1946, the Byurakan Astrophysical Observatory has been a significant astronomical institution. Victor Ambartsumian's insights regarding the importance of astronomical activities in the Armenian SSR were distinctive examples of genius, both in scientific research and scientific administration. Theoretical astrophysics flourished while various observational undertakings, especially the Markarian survey for galaxies with ultraviolet continua, provided frontier data eagerly pursued by astronomers in the rest of the world.

For decades, international astronomers were awed at how the small Armenian Republic could maintain such a major research facility. By the end of the 1970s, progress for the future was being set in place with construction of the 2.6-m telescope. By the conclusion of the 1980s, Byurakan Observatory had a versatile, world-class telescope to accompany the famous and unique 1-meter Schmidt photographic telescope. A new, large scientific office and laboratory building had also been constructed.

Beginning in 1990, astronomical progress was disrupted by political events accompanying the dissolution of the USSR. Interruption of society's infrastructure had widespread and unpredictable negative consequences. Astronomers throughout the world felt the tragedy of events in Armenia as we saw the deprivations of our professional colleagues. We were humbled and inspired by the determination of the Armenian astronomers to maintain their Observatory and their astronomy in the face of overwhelming difficulties. Attending Symposium 194 of the International Astronomical Union in 1998 gave the international community of astronomers the opportunity to acknowledge their Armenian colleagues for their successful efforts in continuing research at Byurakan.

The "Active Galaxies" theme of the Symposium reflected major past contributions from Byurakan, and stimulating presentations from throughout the world heralded invigorating new research, both in the topic and at the Observatory. This Symposium summarized the exciting progress being made toward understanding the most energetic and the most distant objects in the universe, these objects being Active Galaxies. Invited reviews and contributed papers, which follow in this Volume, utilize observational techniques from gamma ray to radio wavelengths. Starburst galaxies, blazars, Seyfert galaxies, and radio galaxies are discussed in terms of how various observed characteristics relate to hypothesized massive black holes in galactic nuclei, and to the extensive star formation taking place in disks surrounding these nuclei.

Unification schemes are summarized that accomodate diverse observational properties within similar models for all forms of active galactic nuclei. Theoretical papers summarize issues of jet formation, mass flow from disk into nucleus, and triggering mechanisms for starbursts. New observations in infrared and submillimeter wavelengths demonstrate how the high redshift universe is dominated by ultraluminous infrared galaxies. New results are presented utilizing the First and Second Byurakan Sky Surveys (the First being the original Markarian survey). A few papers also utilize anomalies of redshift distributions or quasar arrangements to argue that a need remains for new physics to explain some observations.

On behalf of the International Astronomical Union, the Editors of this Volume thank many people and organizations who contributed to the success of Symposium 194 and to the wide-ranging astrophysics which was included. The greatest effort was expended by the Local Organizing Committee, who worked months in advance to prepare all logistical arrangements and who worked tirelessly during the time of the Symposium to accommodate all needs of the participants. Chairman of the LOC was H. Haratyunian and Secretary was A. Mickaelian, both assisted by E. Balayan, S. Balayan, K. Gigoyan, A. Gyulbudaghian, V. Hambaryan, T. Magakian, A. Mahtessian, M. Melikian, T. Movsessian, V. Movsessian, E. Nikoghossian, and A. Yeghiazarian.

Topics and papers for the Symposium were selected by the Scientific Organizing Committee, co-Chaired by E. Khachikian and Y. Terzian. Other members were H. Arp, F. Bertola, A. Boyarchuk, G. Burbidge, D. Kunth, M. Longair, J. Narlikar, V. Trimble, D. Weedman, L. Woltjer, and A. Zasov.

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