

JOINT DISCUSSION NO. 3

NUCLEI OF NORMAL GALAXIES

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Edited by W. B. Burton

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INTRODUCTORY REMARKS TO THE JOINT DISCUSSION ON NUCLEI OF NORMAL GALAXIES

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The papers which follow here were given at the Joint Discussion on Nuclei of Normal Galaxies, held in Montreal on August 21, 1979, at the XVIIth General Assembly of the International Astronomical Union. This Joint Discussion was jointly sponsored by IAU Commission 28 on Galaxies, by Commission 33 on Structure and Dynamics of the Galactic System, by Commission 34 on Interstellar Matter and Planetary Nebulae, and by Commission 40 on Radio Astronomy. The scientific organizing committee consisted of W. B. Burton (Minnesota), chairman, R. D. Ekers (Groningen), H. Okuda (Kyoto), D. E. Osterbrock (Lick), V. I. Pronik (Crimea), and D. W. Weedman (Pennsylvania).

While preparing for this Joint Discussion, the organizing committee struggled with the problem of finding a suitable definition for the notorious word "normal" as applied to the enormously complicated phenomena of galaxies. What has become clear is that galactic nuclei of all sorts share an involvement in a continuous hierarchy. Thus the lower extent of the energy range exhibited by nuclei of Seyfert galaxies overlaps the upper extent of the energy range of galactic nuclei which most of us would classify as normal. Likewise, many agreeably-normal nuclei show signs of disruptive activity, high velocity dispersions, morphological asymmetries, and ejection. It has also become clear that study of nuclear phenomena must extend to include study of the entire bulge or core region. These matters are reflected in the papers which follow. These papers also collectively emphasize that galactic nuclei reveal different properties at different wavelengths; presented at the Joint Discussion were results derived from optical and infrared data, as well as from millimeter and longer wavelength radio data. The papers also serve to put work on the nucleus of our own galaxy, which shows many of the same puzzling properties found in other normal galactic nuclei, into a pleasantly wider perspective.