

AN INTRODUCTION TO

# activegalacticnuclei

How can we test if a supermassive black hole lies at the heart of every active galactic nucleus? What are LINERs, BL Lac objects, N galaxies, broad-line radio galaxies, and radio-quiet quasars and how do they compare? This timely textbook answers these questions in a clear, comprehensive, and self-contained introduction to active galactic nuclei – for advanced undergraduates and graduate students in astronomy and physics.

The study of AGNs is one of the most dynamic areas of contemporary astronomy, involving one fifth of all research astronomers. This textbook provides a systematic review of the observed properties of AGNs across the entire electromagnetic spectrum, examines the underlying physics, and shows how the brightest AGNs, quasars, can be used to probe the farthest reaches of the Universe. This book serves as both an entry point to the research literature and as a valuable reference for researchers in the field.

Cover photograph: Part of the 'Hubble Deep Field', a ten-day exposure obtained with the Wide-Field Planetary Camera-2 on the Hubble Space Telescope in December, 1995.

This represents a 'true color' map in which the colors are exaggerated: blue objects, such as star-forming regions, appear very blue, and red objects, such as old stellar systems, are very red.

Courtesy of R. W. Pogge, the Space Telescope Science Institute and NASA.

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