

**CHAPTER I. Multiwavelength AGN surveys:  
past, present, and future**



# Multiwavelength surveys for Active Galactic Nuclei

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**Abstract.** Most of what we know about active galactic nuclei (AGNs) has been driven, or at least strongly shaped, by our methods for finding them, and multiwavelength AGN surveys have achieved remarkable successes in recent decades. I will present a broad, and thus necessarily shallow, review of such multiwavelength AGN surveys. I will first present some brief introductory points on, e.g., general survey approaches, AGN luminosities, host galaxies, and anisotropic emission/obscuration. I will then review many of the key current surveys and their results, separating these into ground-based and space-based surveys. Finally, I will discuss some future prospects including essential remaining questions and “discovery space” considerations.

**Keywords.** galaxies: active, galaxies: nuclei, black hole physics, surveys

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## 1. Introduction and Summary

The topic of multiwavelength surveys for AGNs is an enormous one, and indeed entire conferences have been held on this topic (e.g., IAU Symposium 304 in Yerevan, Armenia). This broad topic cannot be reviewed well in a brief proceedings article. Thus, I have prepared an expanded one-hour version of my conference talk and placed it on YouTube as <https://www.youtube.com/watch?v=jnltH5jxmlA>, since this allows a more complete presentation. As per agreement with the editors, this will serve as my conference proceedings contribution, and I hope this can be of some use for future generations of Ethiopian students.

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