

Invited lecture

HIGH VELOCITY WINDS FROM NARROW AND BROAD ABSORPTION LINE QUASARS

George Chartas

*Penn State University, Department of Astronomy and Astrophysics,
503 Davey Lab, University Park, PA 16802, USA*

E-mail: chartas@astro.psu.edu

The current paradigm for the AGN phenomenon is a central engine that consists of an inflow of hot material accreting in the form of a disk onto a supermassive black hole. Observations in the UV and optical find powerful and high velocity ionized material outflowing from the black hole. I will present recent X-ray observations of AGN that suggest the presence of near-relativistic outflows of ionized absorbing material with velocities of up to $0.7c$. These studies indicate that these winds may be important in regulating the growth of the supermassive black hole, controlling the formation of the host galaxy, and enriching the intergalactic medium. Based on our recent X-ray and optical observations of AGN with highly blueshifted narrow and broad absorption lines I will present a unified picture to describe the outflow properties of most quasars.