AGN Unification, X-ray Absorbers and Accretion Disk MHD Winds

We present the 2D photoionization structure of the MHD winds of AGN accretion disks. We focus our attention on a specific subset of winds, those with poloidal currents that lead to density profiles n(r) \propto 1/r. We employ the code XSTAR to compute the local ionization balance, emissivities and opacity which are then used in the self-consistent transfer of radiation and ionization of a host of ionic species of a large number of elements over then entire poloidal plane. Particular attention is paid to the Absorption Measure Distribution (AMD), namely their hydrogen-equivalent column of these ions per logarithmic ? interval, dN_H/dlog ? (? = L/n(r)r^2 is the ionization parameter), which provides a measure of the winds' radial density profiles. For the given density profile, AMD is found to be independent of ?, in good agreement with analyses of Chandra and XMM data, suggesting the specific profile as a fundamental AGN property. Furthermore, the ratio of equatorial to polar column densities of these winds is \simeq 10^4; as such, it is shown they serve as the "torus" necessary for AGN unification with phenomenology consistent with the observations. The same winds are also shown to reproduce the observed columns and velocities of C IV and Fe XXV of BAL QSOs once the proper ionizing spectra and inclination angles are employed.