

The restless nature of AGN: 10 years later



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On the properties of corona in Seyfert 1 galaxies

In the radio-quiet category of active galactic nuclei (AGN), the observed X-ray emission is believed to originate in the hot corona situated close to the vicinity of the accretion disk. Despite the numerous X-ray studies on AGN, we still do not have a clear understanding of the nature of the corona, such as its geometry, shape, location and the physical processes that power it. Parameters that can put constraints on the nature of the X-ray corona in AGN are the power law index and the high energy cut-off in the observed X-ray continuum. During the last decade, there has been progress in our understanding of the corona in AGN, owing to the availability of high signal-to-noise data covering a wide range of energies from NuSTAR. Utilizing the data from NuSTAR, we have carried out a systematic investigation of the coronal properties of a sample of about 140 Seyfert 1 type AGN. Of these, we could determine the temperature of the corona is about 36 sources from the physical model fit to the observed X-ray spectra. From these measurements, we investigated various correlations between the properties of the corona and the physical properties of the AGN. Also, from analysis of multi-epoch data available for a few sources, we found evidence for variation in the temperature of the corona in two sources, namely MCG+08-11-011 and NGC 3227. Details of the results will be presented in the meeting.

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