Contributed Talk

Splinter AGN

On the Origin of Optical Time Delays in AGN

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There is increasing evidence for finite time lags, of order a day, between the emission in different bands across the UV-to-optical wavelength range in AGN. Such delays are often attributed to the presence of irradiated accretion disks in those sources, with far-reaching implications for accretion-disk physics, black-hole growth rates, and quasar structure. In this talk additional physical mechanisms that lead to finite continuum time-delays will be explored, with a particular emphasis on the contribution of the BLR to the signal. It will be shown, by means of state-of-the-art models for the BLR, that the contribution of irradiated accretion disks to the time-delay signal, if present, is secondary in some of the sources. We discuss new results for Mrk 279 and emphasize emerging problems with the interpretation of the time-delays in the framework of naive models for the BLR and for irradiated accretion disks.