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X-ray variability of Seyfert galaxies during transient obscuration events: the case of NGC 3783

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Recent observing campaigns revealed the occurrence of "obscured states"in a few Seyfert galaxies, produced by streams of outflowing, lowly ionized gas, partially eclipsing the X-ray source. These events appear to be transient, temporarily modifying the X-ray properties of the source. The increasing number of detections suggests this might be a common phenomenon. It is therefore important to study the effects of such events on the X-ray characteristics of the source. I will report on our comparative study of the X-ray variability properties of the Seyfert galaxy NGC 3783 during unobscured and obscured states. The obscurer is found to respond to the short-time scale variations of the illuminating X-ray continuum, imprinting characteristic signatures in the spectral-timing properties of the source. These can be used to put independent constraints on the parameters of the obscuring gas.

Topic

Active Galactic Nuclei: accretion physics and evolution across cosmic time

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