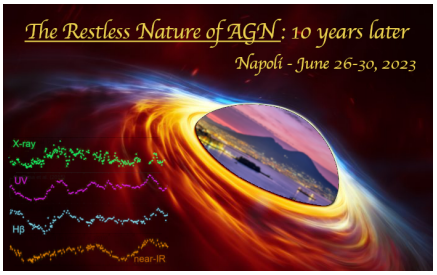

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Investigation on the Narrow Line Seyfert 1 Mrk 335 in an intermediate state, with Chandra/HETGS, NuSTAR and NICER

The Narrow Line Seyfert 1 Mrk 335 has been observed in X-rays since 2000 and has shown to be highly and rapidly variable in flux and spectral shape, due to changes in the structure of the hot corona responsible for the primary X-ray emission via Comptonization. Its complex X-ray spectrum presents interesting features that need to be investigated in different states. While several studies have already been performed in low-flux states and during flares, we focus here on the intermediate-flux state, where previously detected warm absorbers are expected to be more easily detectable. After spending two years in a historically long low-flux state, the source finally became brighter in June-July 2020. On this occasion, we performed simultaneous observations of Mrk 335 with NuSTAR, NICER, and first the first time, Chandra/HETG. We present here our preliminary results regarding the use of NuSTAR observations to constrain the continuum, reflection properties and the broadened Fe-K line, the need for the high-resolution of HETGS to get information on the absorbers structures, and the value of NICER to study the strong soft excess.

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