

S02a *XRISM* observations of a UV line driven disc wind in AGN

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X-ray UltraFast Outflows (UFO) are observed in some active galactic nuclei (AGN), with blueshifted ($v \sim 0.2c$) and highly ionised Fe-K absorption lines. UFO carries a lot of kinetic energy from AGN to the galaxy, invoking the quasar mode feedback. However, we cannot strictly estimate its mass loss rate and/or kinetic energy in the current X-ray CCD detectors due to its low energy resolution. Moreover, the exact mechanism for launching UFO is still to be clarified.

Here we synthesise the X-ray energy spectra resulting from a state of the art radiation hydrodynamics UV line driven disc wind simulation (Nomura et al. 2020, accepted for MNRAS, arXiv:1811.01966). We demonstrate that there are some lines of sight which only intercept highly ionised and fast outflowing material, and that our model can reproduce the depth and velocity of the iron absorption lines seen in PG 1211+143, which is the archetypal UFO source. We also simulate *XRISM*/Resolve observations of this wind and show that the high energy resolution can resolve the detailed structure in the wind and recover the wind energetics when combined with models which correctly estimate the wind radius. New data from *XRISM* will pave the way for physical predictions of AGN wind feedback in cosmological simulations.