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Il vento estremamente clumpy nella sorgente quasar luminosa PDS 456 rivelato da XRISM

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The presence of blue-shifted iron K absorption features in the spectra of nearby AGN was revealed over 2 decades ago with the first XMM-Newton observations of nearby AGN. They indicate the presence of powerful ultra-fast outflows launched from the innermost regions of the accretion disk with velocities up to 0.3c.
After the successful launch of the XRISM observatory, we now are entering a new era, where the superb spectral resolution of the calorimeter is providing an unprecedented view of these disk winds. Here I will report on the new results from the March 2024 XRISM campaign on the prototype disk wind PDS 456. The astonishing XRISM result is that the disk wind is clumpy and composed of at least five discrete high-velocity components with outflowing velocity ranging between 0.23c and 0.33c. The observation also revealed a strong Fe K emission, implying a wide opening angle of the wind. The inferred kinetic power is higher than what was previously estimated and similar to the Eddington luminosity of the QSO.

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