

## Z215a XRISM observations of the powerful disk wind quasar PDS 456: 1. Overview and highlights

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The nearby luminous radio-quiet quasar PDS 456 ( $z = 0.184$ ) is known for its powerful and persistent ultra-fast outflow (UFO). The outflow of PDS 456 is believed to form a wide-angle flow with a velocity of  $0.3c$ , which should provide significant kinetic power to its surroundings and is important for the co-evolution of black holes and their host galaxies. To investigate the detailed physical properties of the UFO in PDS 456 with unprecedentedly high-resolution X-ray spectroscopy, we conducted a 240 ks observation of PDS 456 with XRISM in March 2024, together with simultaneous observations of NuSTAR, XMM-Newton, Swift, NICER, and Seimei telescope. The observations clearly show broad emission and blue-shifted absorption features from the UFO with a velocity of  $0.3c$ . In this talk, we present an overview of the large observation campaign with six observatories and review the scientific highlights revealed by this observation campaign.