Three steps to the CIELO: VO and high-resolution spectroscopy chase the origin of soft X-rays in obscured AGN

M.Guainazzi, S.Bianchi

European Space Astronomy Center of ESA
(Matteo.Guainazzi@sciops.esa.int/+34.91.8131172)

The origin of the soft X-ray emission in obscured Active Galactic Nuclei (AGN) is still largely unknown, despite important progress made possible by recent measurements with Chandra and XMM-Newton. Our understanding of the evolution of accretion onto supermassive black holes, and of its interaction with gas and stars in the dense nuclear environment would receive a dramatic burst by the solution of this mystery. In this paper, we will: a) show why high-resolution X-ray spectroscopy is crucial to the solution of this issue; b) present CIELO, the first catalogue of soft X-ray emission lines in obscured AGN (˜80 sources),built from observations of the Reflection Grating Spectrometer (RGS) on-board XMM-Newton; c) discuss the implementation of the IVOA Line Data Model in VO tools (such as the SED builder VOSpec), and its application to CIELO. The combination of the unprecedented RGS sensitivity in the soft X-ray regime, and of the VO protocols power leads us to be closer than ever to unveiling the nature of soft X-ray emission in obscured AGN