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The fundmental plane of black hole activity for radio loud sources

It is very controversial whether the X-ray emission of strong radio black hole sources is from jet or acrretion disk. In this work, we collected a sample of radio loud and lower luminosity black hole sources (e.g., active galaxy nuclei and X-ray binaries) to explore their radio–X-ray correlation and fundamental plane of black hole actities. We consider the beaming effect on the radio emission and find that the X-ray–radio relation follow a shallower ($F_{\rm R} \propto F_{\rm X}^{\rm b}, b \sim 0.60$) and the fundamental plane is consisted with the result of Merloni et al.(2003). This results implied that the X-ray emission of strong radio black hole sources is originated from radiatively inefficient accretion mode (e.g., ADAF).

Primary authors: DONG, Ai-Jun () School of Physics and Electronic Science, Guizhou Normal University/Guizhou Provincial Key Laboratory of Radio Astronomy and Data Processing); DU, Bo-Wen (Guizhou Provincial Key Laboratory of Radio Astronomy and Data Processing, Guizhou Normal University); HE, Wei-Long (School of Physics and Electronic Science, Guizhou Normal University/Guizhou Provincial Key Laboratory of Radio Astronomy and Data Processing); ZHANG, Xue-Kun (School of Physics and Electronic Science, Guizhou Normal University/Guizhou Provincial Key Laboratory of Radio Astronomy and Data Processing)

Presenter: DONG, Ai-Jun () School of Physics and Electronic Science, Guizhou Normal University/Guizhou Provincial Key Laboratory of Radio Astronomy and Data Processing)