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RXS J08182+0122 - an AGN with an unusually broad Keplerian rotator line profile

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We have investigated the Balmer line profile of the AGN linked to the X-ray source RXS J08182+0122. We present a low-resolution spectrum of this target that we obtained at SAAO and subsequently analysed. This AGN displays broad emission lines with a double bump profile that is characteristic of fast moving gas in a Keplerian orbit around a supermassive black hole. This source is particularly interesting, as the rotational speeds inferred from the line widths are of the order of 13000 km·s−1. This corresponds to some of the highest values measured in AGN with Keplerian rotator line profiles. We attempt to fit the profile with various models developed for this class of objects, and thereby estimate the dimensions, inclination and some additional properties of the broad emission line region of this AGN.

Abstract field

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