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Title: A pair of UV nuclei or a compact star-forming region near the active nucleus in Mrk 766?

Authors: Singh, KP (/jspui/browse?type=author&value=Singh%2C+K+P)

Keywords: Galaxies active

star formation galactic nuclei

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Citation: Journal of Astrophysics and Astronomy, 42(2).

Abstract: We report the discovery of a bright, compact ultraviolet source at a projected separation of 1.1

kpc from the known active galactic nucleus (AGN) in Mrk 766 based on AstroSat/UVIT observations. We perform radial profile analysis and derive the UV flux almost free from the nearby contaminating sources. The new source is about 2.5 and 5.6 times fainter than the AGN in the far and near UV bands. The two sources appear as a pair of nuclei in Mrk 766. We investigate the nature of the new source based on the UV flux ratio, X-ray and optical emission. The new source is highly unlikely to be another accreting supermassive black hole in Mrk 766 as it lacks X-ray emission. We find that the UV/optical flux of the new source measured at four different bands closely follow the shape of the template spectrum of starburst galaxies. This strongly suggests that the new source is a compact star-forming region.

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