

Multiwavelength activity of NGC 1275 nucleus

Active galactic nucleus (AGN) phenomenon and a role of jets, powered by central black hole of AGN, in the feedback of the surroundings on the different scales is the matter of the detailed multiwavelength investigations. The long-term observations of AGNi are used to reveal the processes taking place in the very proximity to the supermassive black holes. One of the approaches to such studies is to detect the launching of jet components viewed in radio range and then link it with flaring events detected at higher energy ranges. Tracking the jet-initiated variability events through the multiwavelength observations as well as its cross-identification from radio frequencies up high energy gamma-rays allows to locate the regions responsible for the generation of observable features which can lead to exploration of the mechanism of jet launching and the origin of emission in the Active Galactic Nucleus. Being the nearby and bright, NGC 1275 is one of the extensively studying AGNi. This object is very active in the timescales of decades. Multiwavelength long-term observations of NGC 1275 resulted in the detection of different timescale variability from this AGN. For the case of NGC 1275 the cross-correlation of the activity at radio, X-ray and very high energy gamma-rays is investigated. The time dependence of activity of NGC 1275 in the wide energy range was found which allow to localize the sites of the emission generation including one of the very high energies. These multiwavelength long-term studies are highly important for the further advance of the AGN's black hole research and investigations of mechanisms of jet formation.

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