

Use of VLBI/Gaia position offsets for AGN physics

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It was shown by Kovalev et al. (2017) and Petrov & Kovalev (2017a,b) that VLBI/Gaia DR1 position offsets are not entirely random, but have a preferable direction along the parsec-scale jet. This anisotropy of VLBI/Gaia position offsets is interpreted as a manifestation of presence of mas-scale optical jets cospatial to radio jets. Based on this explanation, a number of predictions has been made. Analysis of VLBI/Gaia DR2 has confirmed predictions and thus, supports this interpretation. We will discuss how new observables, projections of the VLBI/Gaia offsets on jet direction and on the direction perpendicular of jet, can be used to get inference of AGN properties.