



## Local alignments of parsec-scale AGN radiojets

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### ABSTRACT

Large scale structures in the universe are of high significance for cosmological research. Their features often constitute a natural playground for testing cosmological models. Such structures are usually discovered by examining the coherence of the characteristics of neighboring sources, both in the 2D and the 3D sky. However, results are often contradictory and their interpretation remains controversial.

We present our search for potential alignments of parsec-scale radio jets in localized regions of the coordinates-redshift space. Using data from the Astrogateo VLBI FITS image database, we deduced jet directions of radio sources and explored the statistical alignment between neighboring jets.

We unveil four regions for which the alignment between jet directions deviates from randomness at a significance level of more than  $5\sigma$  and is unlikely due to instrumental systematics. Intriguingly, their locations coincide with other known large-scale cosmic structures and/or regions of alignments. If the alignments found are the result of physical processes, the discovered regions may designate some of the largest structures known to date.