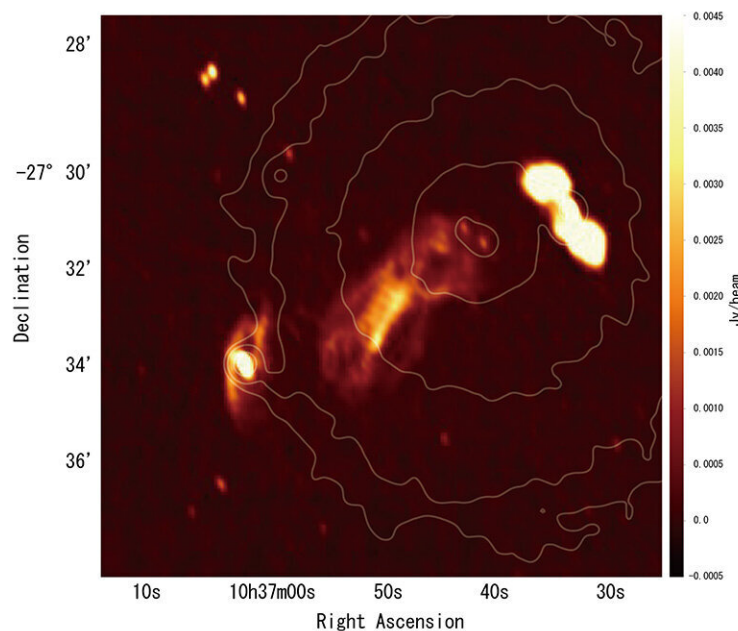


# Inexplicable cloud of magnetized plasma found in Hydra galaxy cluster

April 8 2024



GMRT radio image of the central region of the Hydra Cluster. The "head" of the Flying Fox discovered this time points to the south-west (lower right). The Flying Fox has a "wingspan" of 220,000 light years. The white contours in the background show the X-ray surface brightness as observed by ESA's XMM-Newton satellite. Credit: Kohei Kurahara

High sensitivity radio observations have discovered a cloud of magnetized plasma in the Hydra galaxy cluster. The odd location and

shape of this plasma defy all conventional explanations. Dubbed the Flying Fox based on its silhouette, this plasma will remain a mystery until additional observations can provide more insight.

A team led by Kohei Kurahara at the National Astronomical Observatory of Japan analyzed observations from the Giant Metrewave Radio Telescope (GMRT) targeting the Hydra galaxy cluster, located more than 100 million [light years](#) away in the direction of the constellation Hydra.

By applying recent analysis techniques to the GMRT (Giant Metrewave Radio Telescope) data archive, the team was able to discover a cloud of magnetized [plasma](#) shaped like a [flying fox](#), which has never been reported before. The team [published](#) their find in *Publications of the Astronomical Society of Japan*.

Radio/optical/IR/X-ray images failed to find a host galaxy at the center of the Flying Fox. This combined with its elongated shape, has left astronomers scratching their heads; the Flying Fox does not fit the model for any known class of objects.

New observing facilities, like the Square Kilometer Array currently under construction, are expected to study the Flying Fox and provide new insights into the nature and history of this unusual object.

**More information:** Kohei Kurahara et al, Discovery of diffuse radio source in Abell 1060, *Publications of the Astronomical Society of Japan* (2024). [DOI: 10.1093/pasj/psae011](https://doi.org/10.1093/pasj/psae011)

Provided by National Astronomical Observatory of Japan

Citation: Inexplicable cloud of magnetized plasma found in Hydra galaxy cluster (2024, April 8) retrieved 16 May 2024 from <https://phys.org/news/2024-04-inexplicable-cloud-magnetized-plasma-hydra.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.