High-resolution VLBI imaging of the gamma-ray blazar candidate J1331+2932

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Active galactic nuclei are the most luminous persistent (non-transient) objects in the Universe. They are bright in the entire electromagnetic spectrum. Blazars are a special class where the jets point nearly to our line of sight. Because of this special geometry and the bulk relativistic motion of the plasma in the jet, their radiation is enhanced by relativistic beaming. The majority of celestial objects detected in gamma-rays are blazars. However, finding their counterparts in other wavebands is often challenging. Here we present the results of our 5-GHz European VLBI Network (EVN) observation of the radio source J1331+2932, a candidate blazar found while searching for possible gamma-ray emission from the stellar binary system DG CVn (Loh et al. 2017). The highest-resolution radio interferometric measurements provide the ultimate tool to confirm the blazar nature of a radio source by imaging compact radio jet structure with Doppler-boosted radio emission, and give the most accurate celestial coordinates as well.