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PKS 2316-423

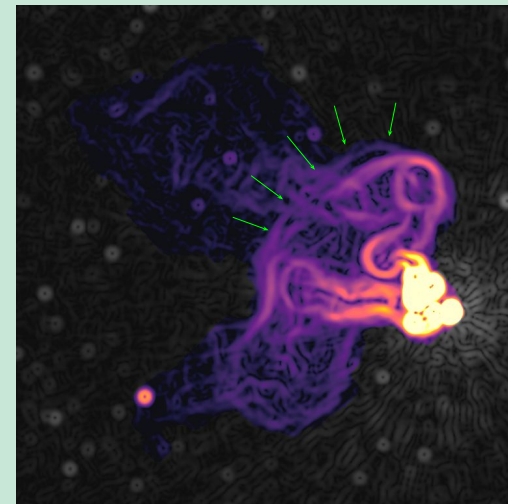
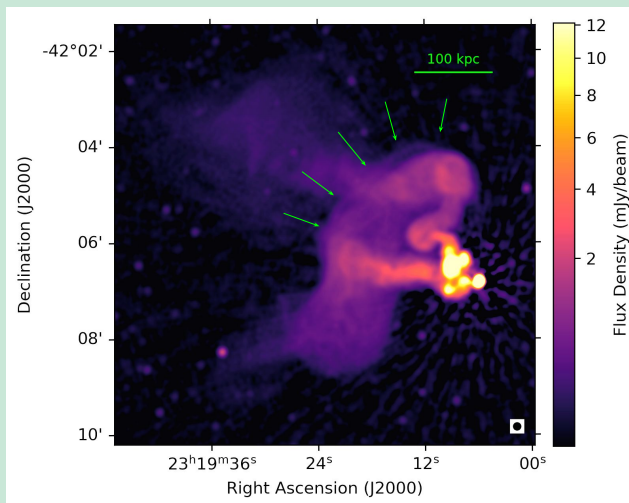
BL Lac object:

Radio loud AGN with jets oriented close to our line of sight

BCG of Abell S1111:

Poor galaxy cluster ($M_{500} \sim 7.7 \times 10^{13} M_{\odot}$)

Total Intensity



High sensitivity ($\sim 6 \mu\text{Jy/beam}$) reached with MeerKAT → Detect the faintest part of the emission, which extends **up to 400 kpc**

Unusual morphology → Two **asymmetric twisted jets** bent toward east, strong interaction with environment

Filaments → One seems to connect the “shock-front” in the southern jet to the eastern part of the northern one, 180 kpc

Luminosity decreases radially → Typical of **FR I** radio galaxies

Hotspots near the core → Similar to **FR II**

BL Lac or FR I? A MeerKAT spectropolarimetric analysis of PKS 2316-423

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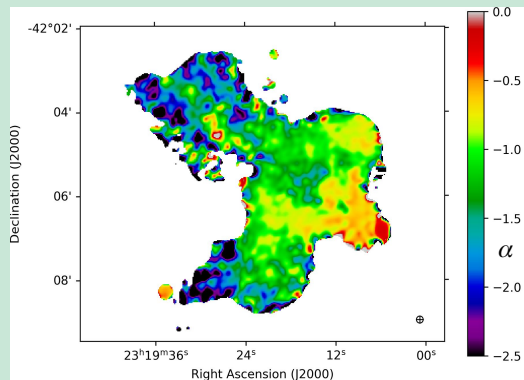
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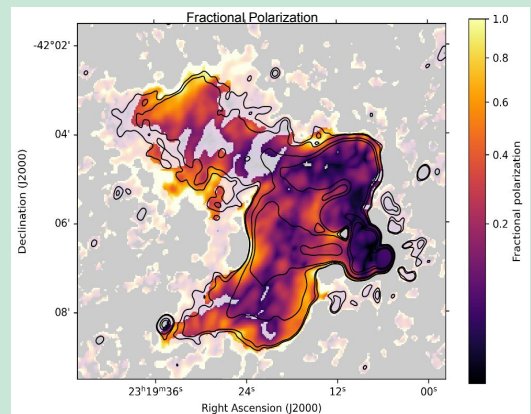
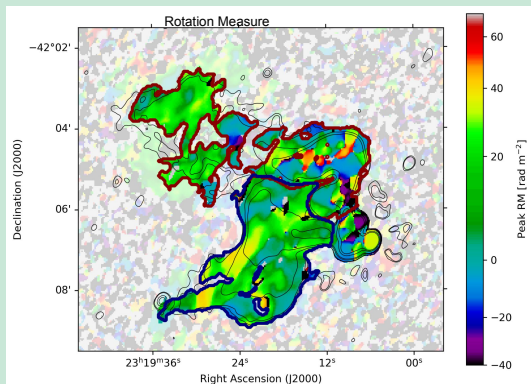
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Spectral analysis

- 10 sub-bands
- 10'' resolution
- **Flat core** $\alpha \sim -0.2$ ($S \propto \nu^{-\alpha}$)
- **Steepening** along the jets up to $\alpha \sim -2$



Polarization analysis



- **Faraday Rotation Measure synthesis** between 0.9 GHz and 1.4 GHz
- Fractional polarization in the **core** $\sim 5\%$
- **Northern jet**
 - Radial fpol increase
 - Radial RM variance decrease
- **Laing-Garrington effect**
- **ICM magnetic fields behaviour**
- Northern jet in the back, southern in the front

