

Magnetic Fields

during the birth and death of stars

Magnetic fields around massive protostellar jets (P.26)

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Magnetic field observations

Question: What is the shape and strength of the magnetic field close to massive protostars?

- Magnetic fields around protostellar disks and jets need high-density and high angular resolution tracers
 - Masers (methanol, H₂O and OH)
- Significant Zeeman splitting detected in **35/47** high-mass star forming regions
 - **$|B|=23 \pm 5 \text{ mG}$** (@ $n_{\text{H}_2} \sim 10^7\text{-}10^9 \text{ cm}^{-3}$)
 - Larger than $B_{\text{crit}} \sim 12 \text{ mG} \Rightarrow$ dynamically important!
 - masers trace large scale field and can provide full 3-D!