

Polarization in forming stars

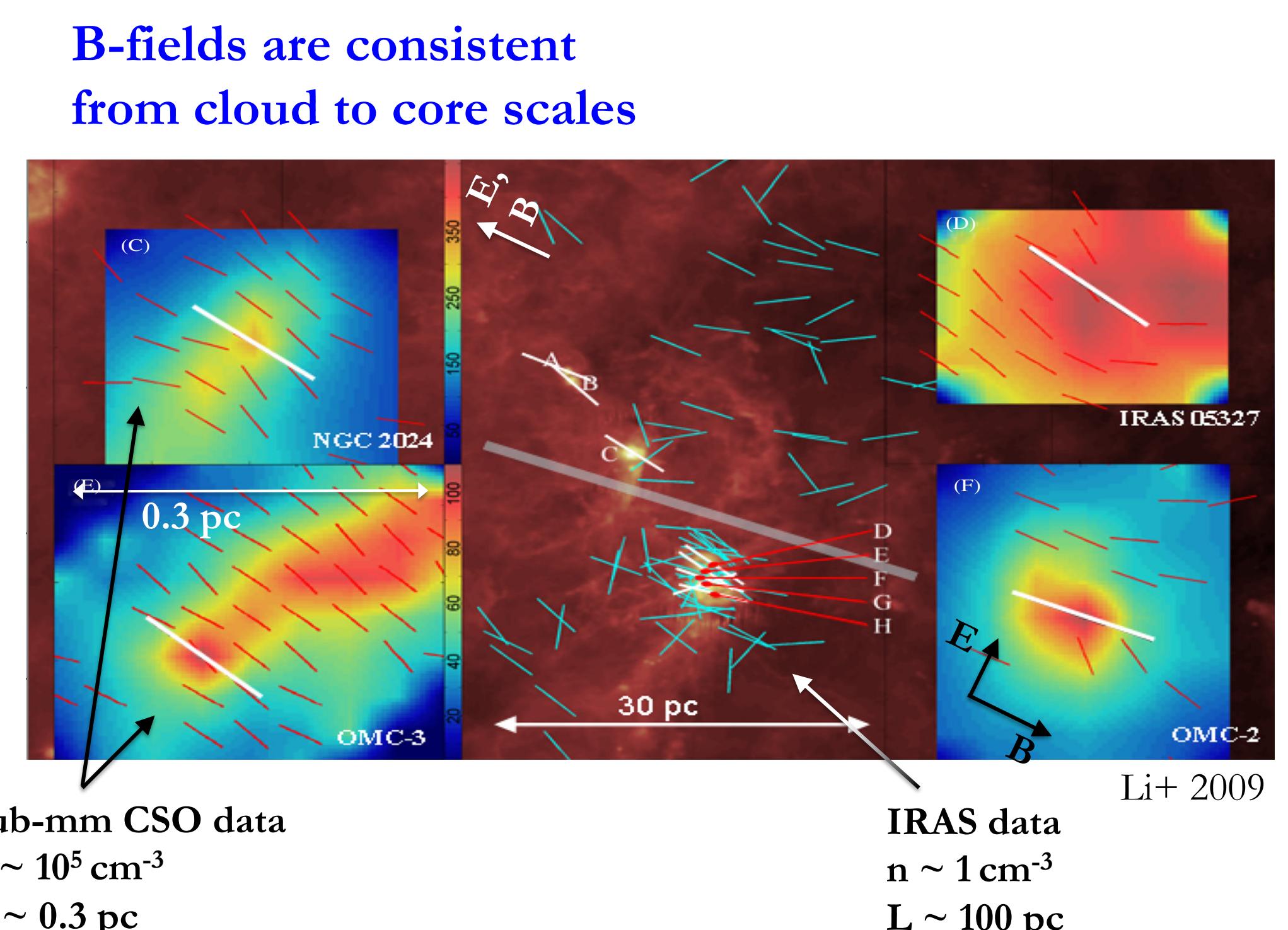
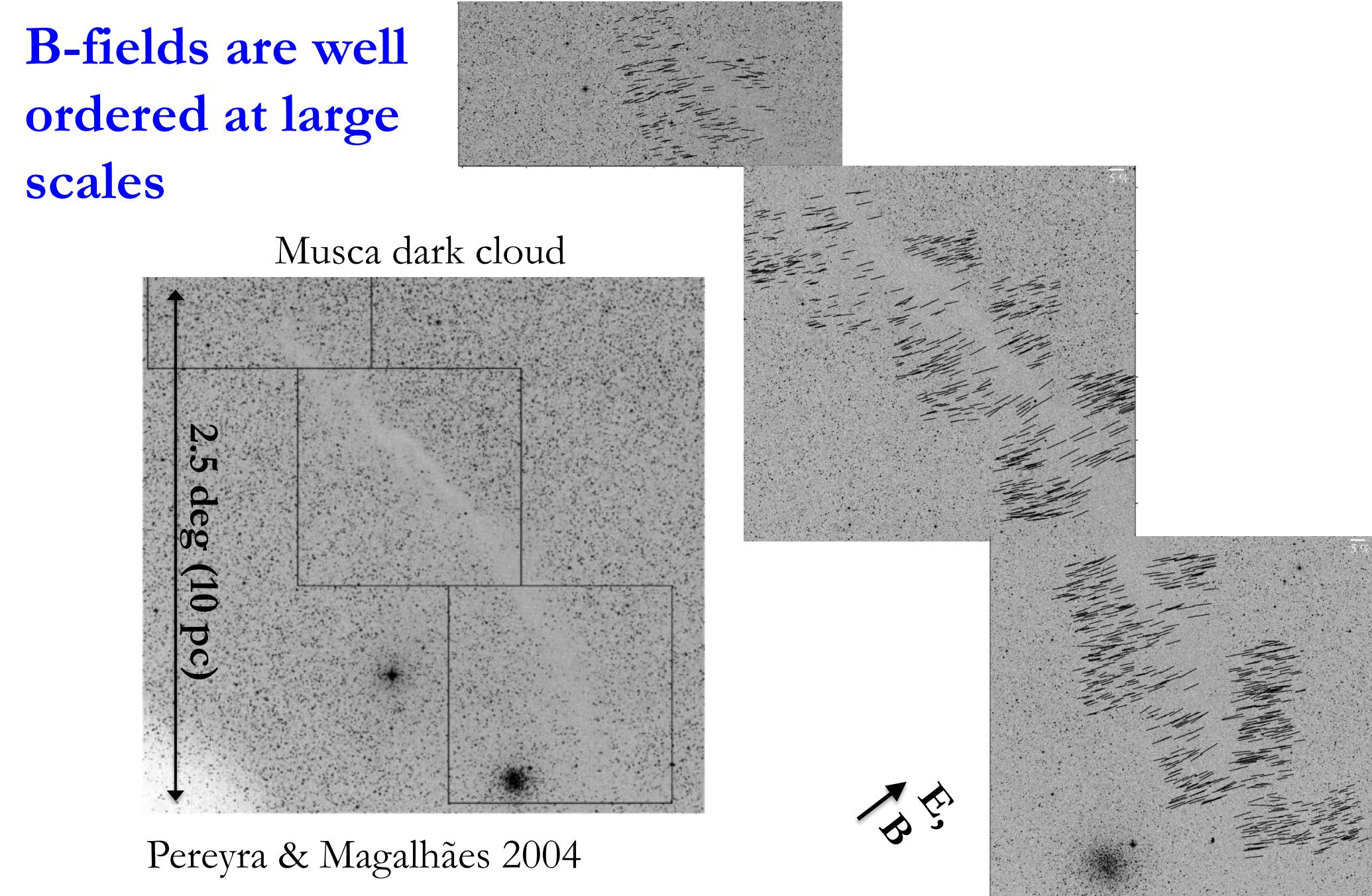


Credit: J. Hester (AZ State U.), NASA

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Magnetic fields are dynamically important on large scales



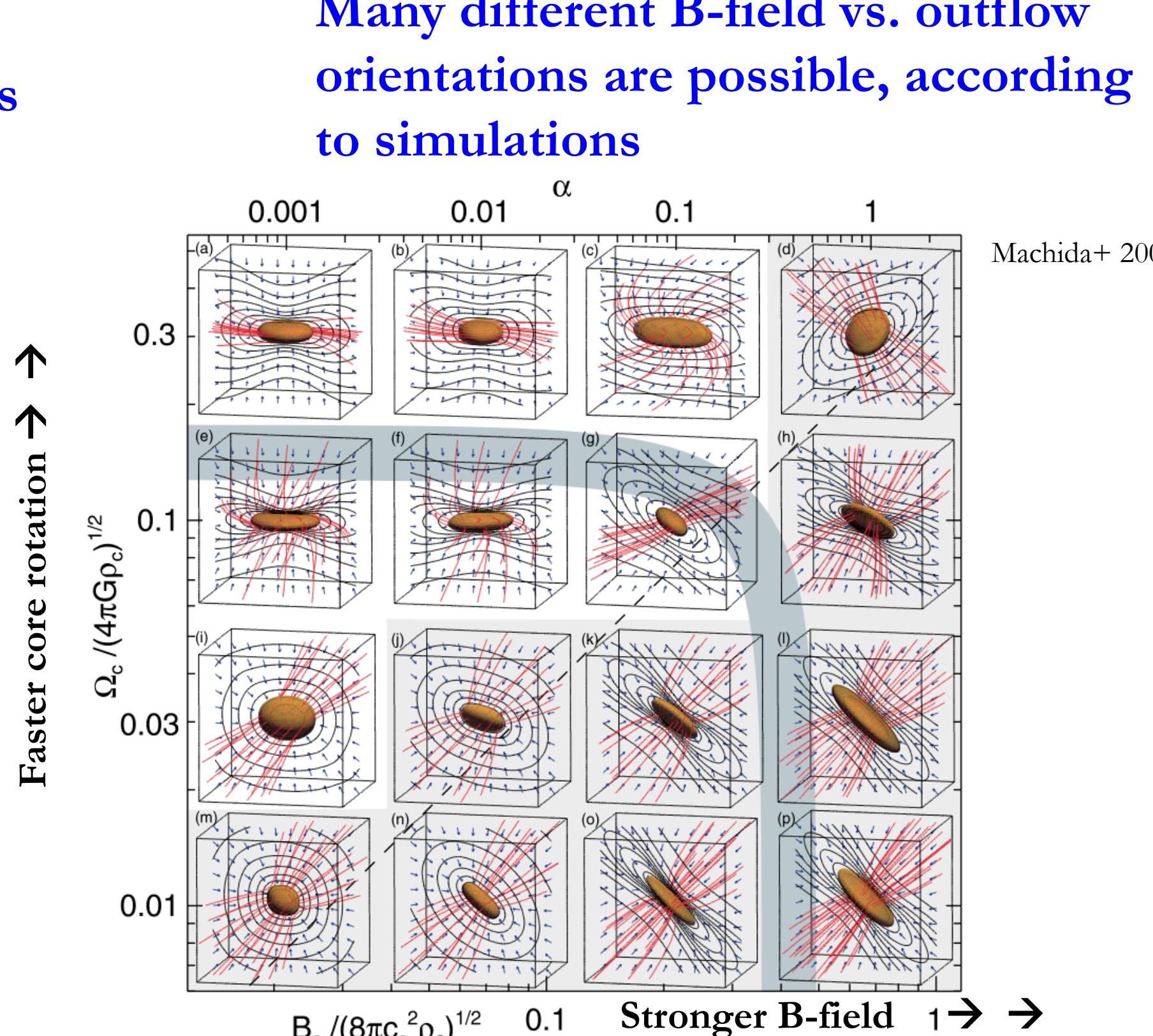
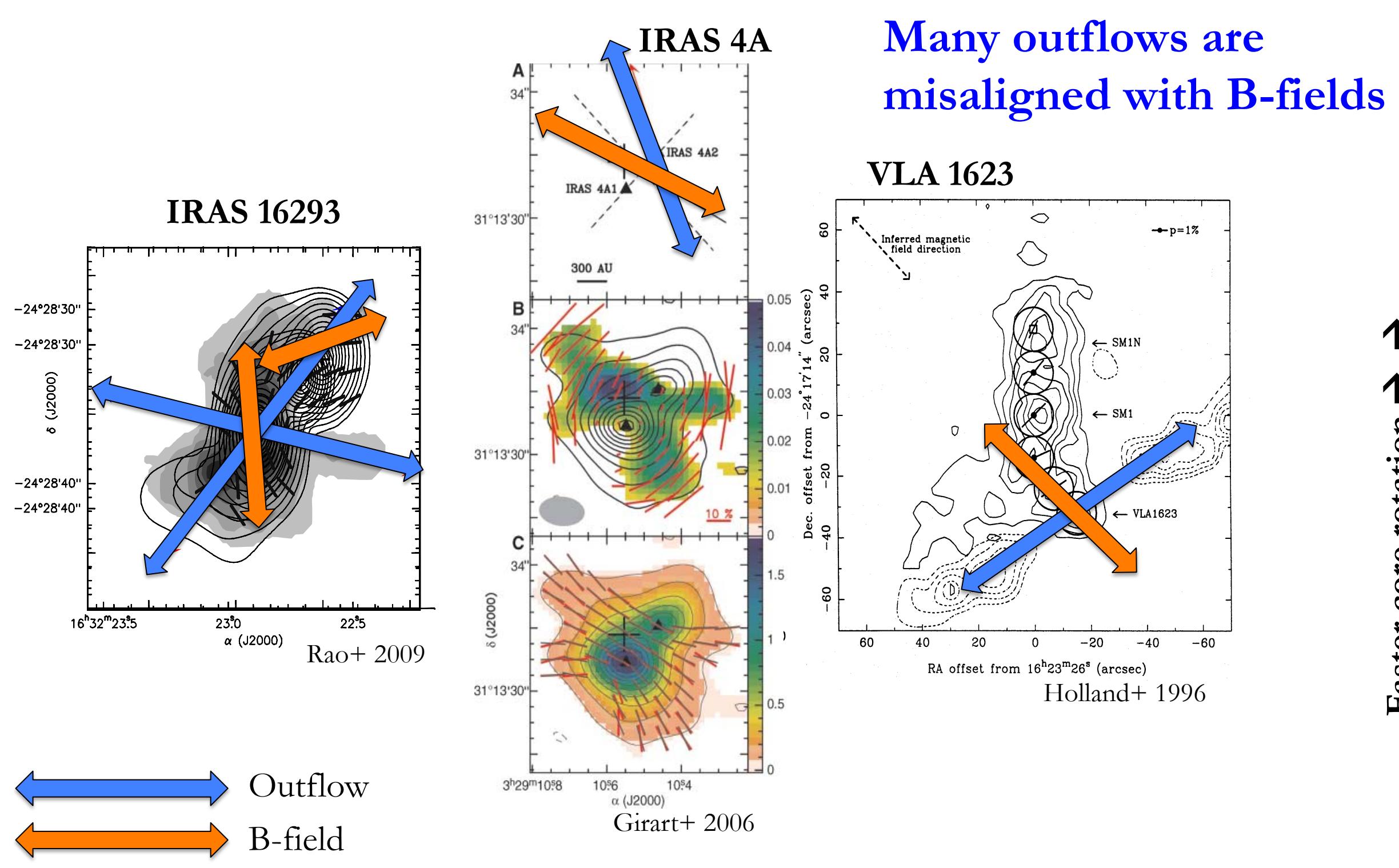
B-fields tend to be well ordered from the molecular-cloud scale (~ 10 pc) down to the dense-core scale (0.5 pc), suggesting that they're dynamically important during large-scale cloud fragmentation.

But are B-fields dynamically important below the dense-core scale?

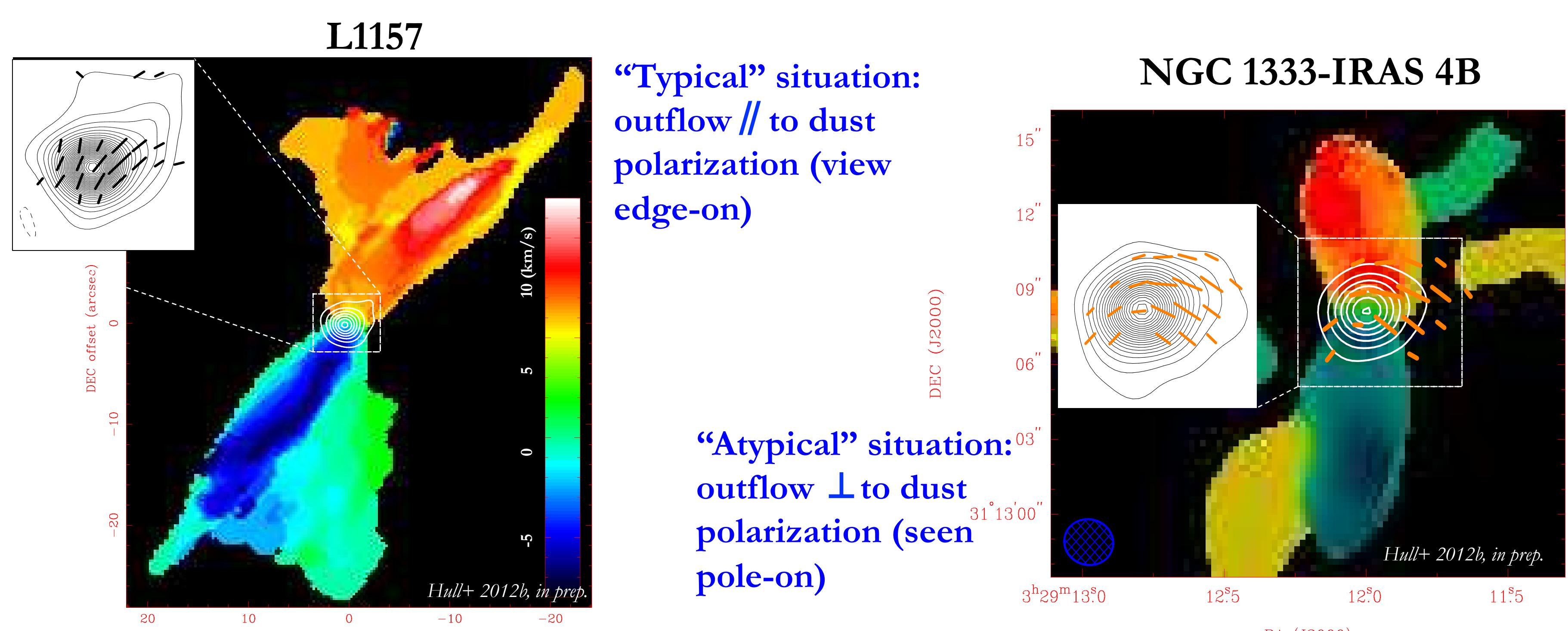
If field are important on smaller scales, the fields should be:

- Well ordered
- Aligned with bipolar outflows

The literature suggests otherwise!



We probe B-field morphologies at scales < 0.1 pc



We see both “typical” and “atypical” cases of outflow/B-field alignment in the results from a key project at CARMA that is currently underway. Our survey of 30 protostellar cores will shed more light on whether outflows and B-fields are intrinsically misaligned, or whether it's just a question of projection effects.

Observations powered by the new CARMA 1 mm dual-polarization system

