

Poster: The JCMT BISTRO Survey: first measurements of the magnetic field strength in the Pillars of Creation

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We present the first high-resolution, submillimetre-wavelength, polarimetric observations of - and thus direct observations of the magnetic field morphology within - the dense gas of the Pillars of Creation in M16. These recent results from the ongoing JCMT BISTRO (B-fields in Star-forming Region Observations) survey show that the magnetic field runs along the length of these photo-ionized columns, perpendicular to, and decoupled from, the field in the surrounding photoionized cloud. We estimate the plane-of-sky magnetic field strength in the columns, and show it to be consistent with the Pillars having been formed through compression of gas with initially weak magnetization. We further demonstrate that the magnetic field strength is comparable to that required to magnetically support the Pillars against pressure-driven radial collapse, and discuss the implications of these measurements for the evolution and lifetime of the Pillars.

Molecular Clouds