

Title

**Measuring Magnetic Field Strengths in Star-forming Regions**

Abstract

Magnetic fields play an important role in the process of star formation. To quantify their importance, measurements of field strength in star forming regions (SFRs), comparisons of the magnetic forces with those of gravity and turbulence, and mapping of the field structure in SFRs are required. For example, in some regions magnetic forces are comparable to gravitational forces, and can regulate star formation timescales, and the magnetic energy may exceed the turbulent energy, channeling gas flows and reducing star formation by factors of a few. These conclusions are based on a very limited number of magnetic field strength measurements, mostly obtained at low angular resolution where field line tangling within the beam could impact the measurement. More measurements of field strength in SFRs are critical, particularly observations that map the field strength, of which only a handful are available. We propose here a programme to significantly increase the number of field strength maps of SFRs, to provide clear answers on the role of magnetic fields in regulating star formation.