

RACHAEL AINSWORTH

Young, Solar-like Stars at Low Frequencies

Abstract: Jets are known to be a fundamental aspect of star formation. Synchrotron emission has been recently reported for a high-mass protostellar jet, providing further evidence that certain jet formation characteristics for newly forming stars are similar to those found from highly relativistic jets from supermassive black holes at the centres of galaxies. I will discuss the pathfinder project I conducted with the Giant Metrewave Radio Telescope (GMRT) to detect low-mass young stellar objects (analogs of the Sun soon after its birth) at low frequencies and present the observations at 325 and 610 MHz. These are the lowest frequency detections of protostars to date. I will present the spectral energy distributions associated with these objects, with which I will provide evidence for synchrotron radiation, and shed light on the last unknown characteristic of jets from young, solar-like stars: the magnetic field.