

THE MAGNETIC FIELD OF THE CLASS I PROTOSTAR WL 17 .

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Strong stellar magnetic fields are believed to truncate the inner accretion disks around young stars, redirecting the accreting material to the high latitude regions of the stellar surface. In the past few years, observations of strong stellar fields on Classical T Tauri stars [class II young stellar objects (YSOs)] with field strengths in general agreement with the predictions of magnetospheric accretion theory have bolstered this picture. Currently, nothing is known about the magnetic field properties of younger, more embedded class I YSOs. It is during this protostellar evolutionary phase that stars accrete most of their final mass, but the physics governing this process remains

poorly understood. Here, we use high resolution near infrared spectra obtained with NIRSPEC on Keck and with PHOENIX on Gemini South to measure the magnetic field properties of the class I protostar WL 17. We find clear signatures of a strong stellar magnetic field. Initial analysis of this data suggests a surface average field strength of ~ 3.6 kG on the surface of WL 17. This is the highest mean surface field detected to date on any YSO. We present our field measurements and discuss how they fit with the general model of magnetospheric accretion in young stars.