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Title: Complete GALEX coverage of the Kepler Field

Type: Contributed Talk

Session: Stellar Activity, Rotation, Ages, Metallicity

Abstract: As part of the privately funded GALEX GALEX Complete the All-sky UV Survey Extension (CAUSE),

300 orbits of GALEX were dedicated to observations of the Kepler field. The entire field was observed with approximately 20 visits of 100 seconds each sampling variability timescales from the millisecond time-tagging resolution of GALEX to a month. The final catalog from these observations will provide

NUV photometry of an estimated 4\times 10^{6}\\$ sources in the Kepler field to NUV

\$m_{\mathrm{AB}} > \$ 23 mag. This additional dataset provides UV excess and activity, which strongly correlates with stellar age, and also can be indicative of otherwise unseen companions. With knowledge of stellar ages, it is possible to determine the timescale of hot jupiter migration, a powerful discriminator of the candidate migration mechanisms. Finally, the characterization of UV emission from stars hosting planets discovered by Kepler is essential to fully characterizing the habitable zone as the inner edge of the habitable zone is defined not just by a temperature but by UV photolysis of water as occurred on Venus.