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Title: The Preservation of Stellar Signals in Kepler Pipeline Processed Data
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Abstract: The task assigned to the Presearch Data Conditioning (PDC) component of the Kepler processing pipeline is to remove systematic and stochastic effects from the data and yet preserve transits and astrophysical signals. An extensive effort has been undertaken to develop a new PDC over the past couple years which uses a Bayesian Maximum A Posteriori (MAP) approach. PDC-MAP performs well at removing systematics and preserving a wide variety of stellar signals. A study has been performed to determine to what extent stellar signals are preserved in PDC processed data. We will discuss the signal periods, amplitudes and features that are preserved and the extent of corruption. Recommendations will be given as to when PDC processed data should be used for astrophysical studies. We will end with our plan for future work to increase signal preservation to even longer periods.