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Title: Beyond the Nyquist Frequency with Kepler data  
Type: Poster  
Session: Asteroseismology

Abstract: For Kepler data sets spanning more than one Kepler orbital period ( $372.5\text{d}$ ), there are no Nyquist ambiguities on the determination of pulsation frequencies, which are the fundamental data of asteroseismology. This opens thousands of stars with long cadence observations to unambiguous determination of their frequencies. The reason for this is that Barycentric corrections made to the timing of Kepler necessitated by variations in light arrival time at the satellite, break the regular time sampling of the data -- the time stamps are periodically modulated. A consequence is that Nyquist aliases are split into multiplets that can be identified by their shape. Real pulsation frequencies are distinguishable from these aliases and their frequencies are completely recoverable, even in the super-Nyquist regime, that is, when the sampling interval is longer than half the pulsation period.