Appendix

Aperture mask and de trended

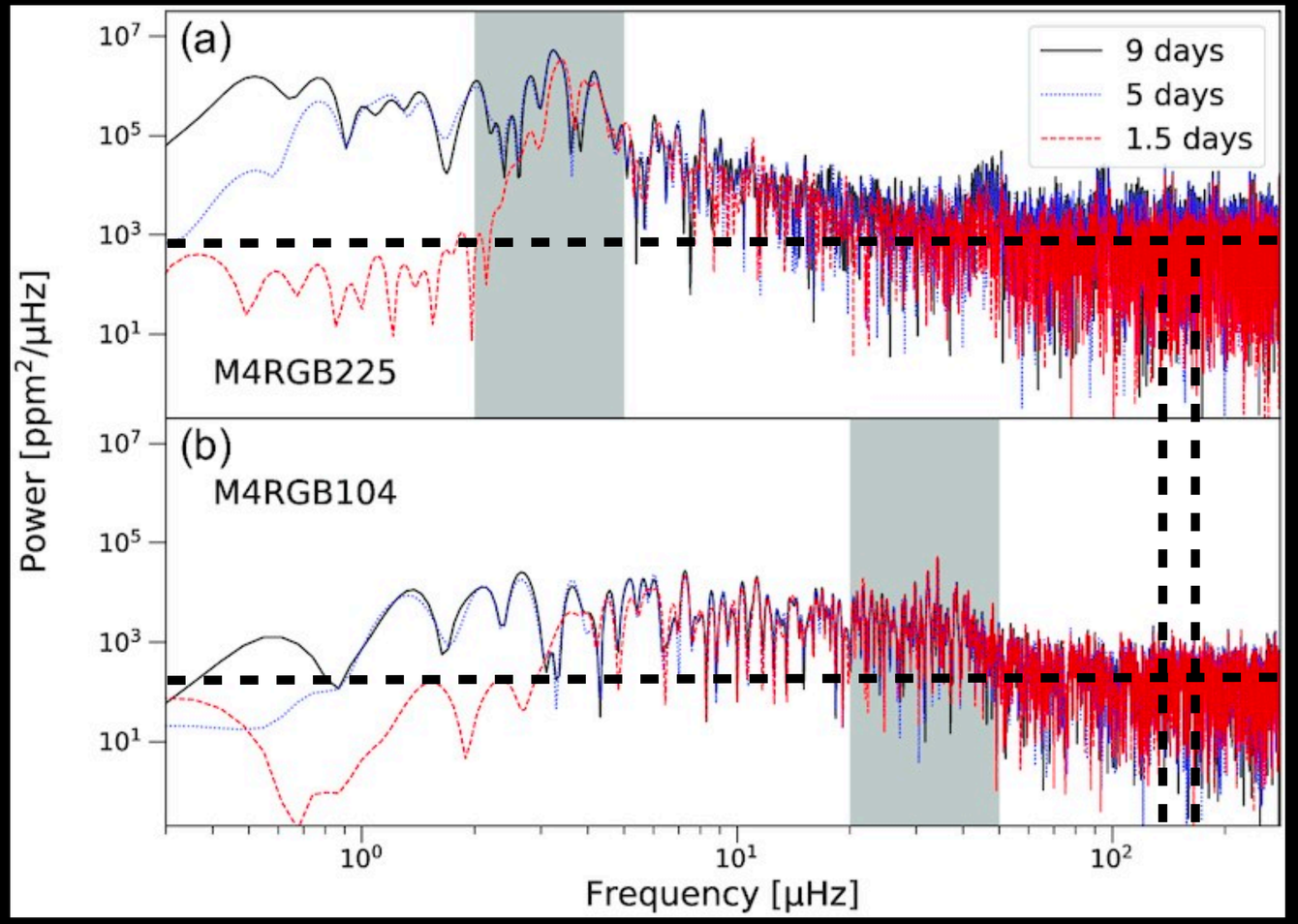
- Due to the large pixel size, there is evidence of blending between stars

- 3 steps:
  1) custom individual mask
  (aperture masks for each star were initially found using an automated method which includes pixels that were within a certain threshold level of the brightest pixel (assumed to be around the centre of the star)) and then manual check

  2) A pixel level decorrelation
  ((based on the method by Deming et al. 2015) to remove systematic effects from individual pixels (e.g. instrumental drifts))

  3) Self flat fielding corrector
  ((SFF) on the light curve (Vanderburg & Johnson 2014)., removed long-term trends to produce a finalized flattened light curve. Forthis detrender, we used a time-scale of 9 d, which is significantly larger than the typical 1.5 d that is used in the literature (e.g. Stello et al. 2016; Wallace et al. 2019). In our tests, we found that at smaller time-scales the low-frequency end of the spectrum was attenuated. This will affect the background fitting to the spectrum, and also the measurement of the global seismic parameters)

Lomb-Scargle periodograms



Howell, M., 2022. doi:10.1093/mnras/stac1918

Seismic Quantities

pySYD pipeline

Information that we can obtain

$$\nu_{max} \propto g T_{eff}^{-1/2}$$

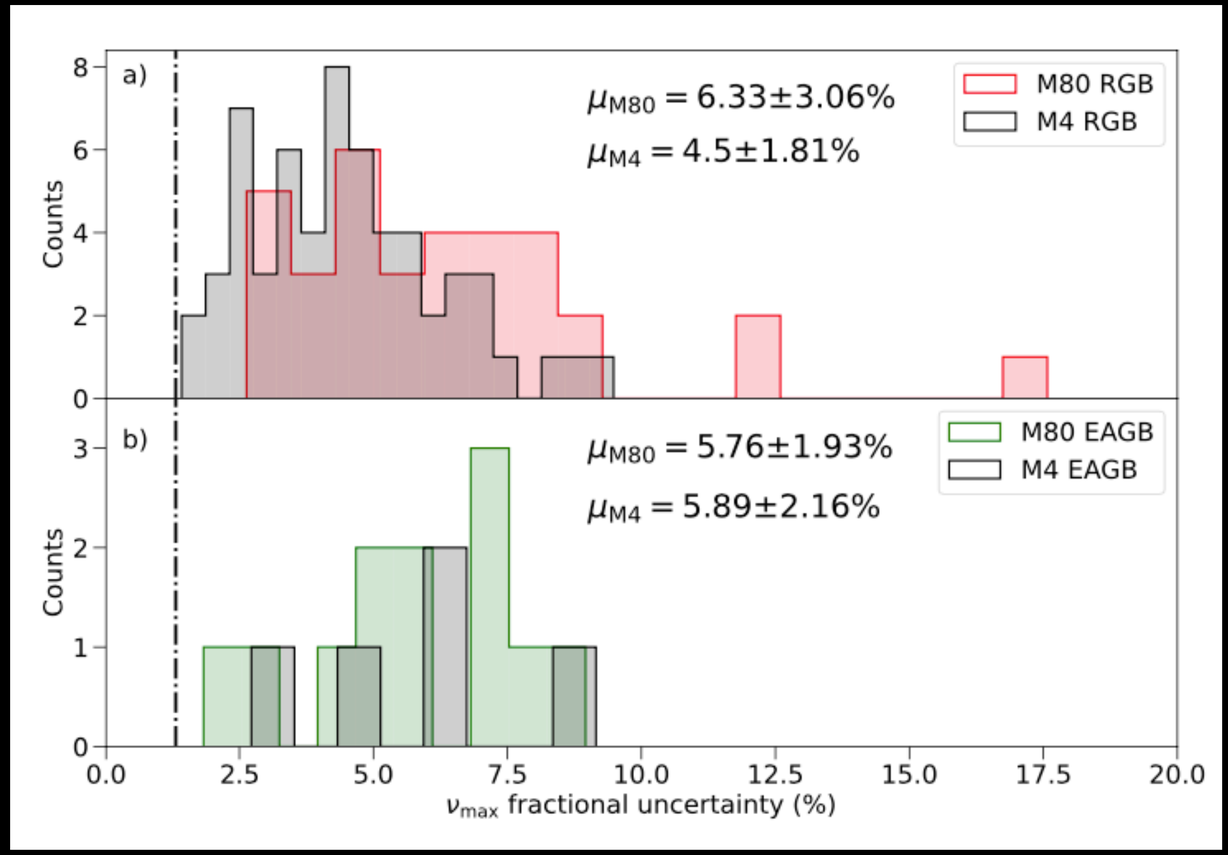
$$\Delta\nu \propto \rho^{-1/2}$$

- In this study they look for Solar-like oscillations in a star's power spectrum (≤ 20 μHz)
- They characterized by two globalseismic quantities:

ν_{max} **the frequency of the maximum acoustic power, (heavy smoothing)**

and

$\Delta\nu$ **the large frequency spacing between adjacent overtone oscillation modes. (Autocorrelator)**



Howell, M., 2023. doi:10.48550/arXiv.2307.07158.