Seismic Quantities

pySYD pipeline

Information that we can obtain

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

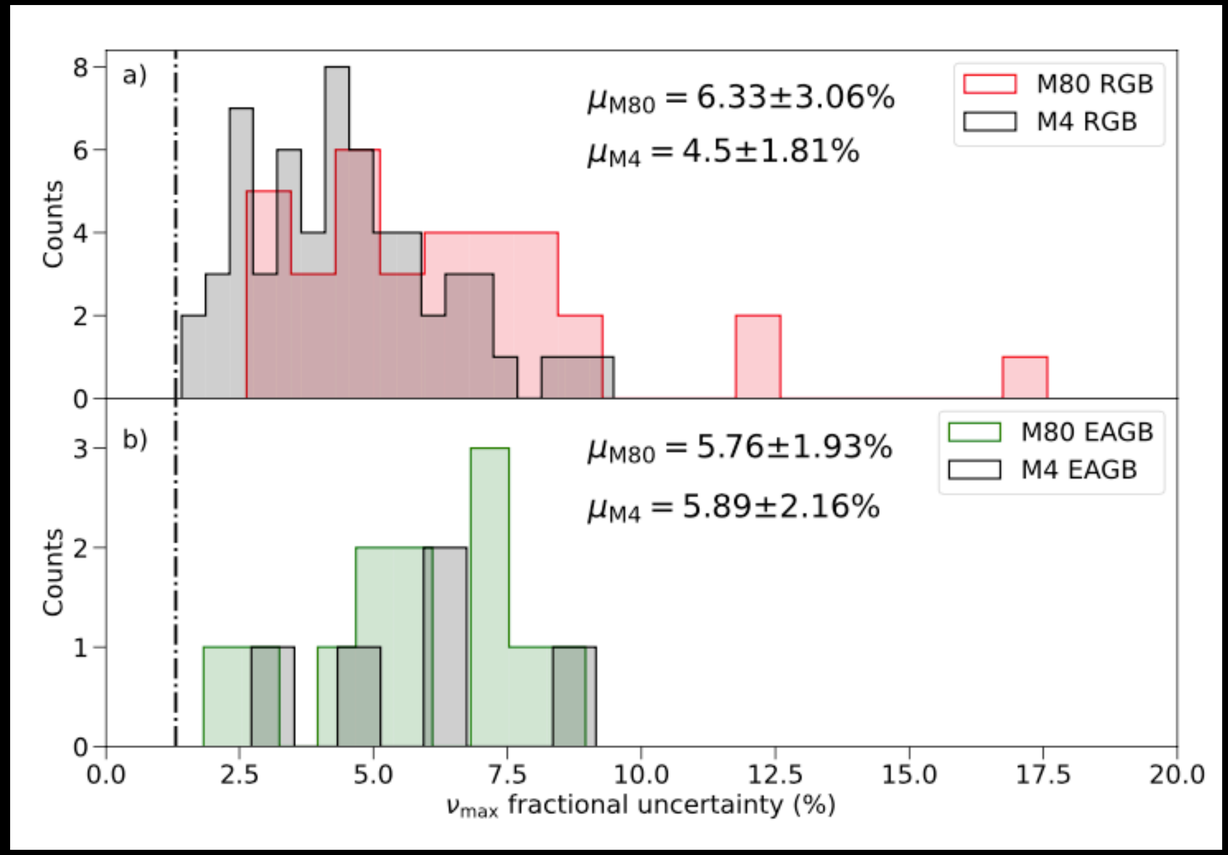
$$\Delta\nu \propto \rho^{-1/2}$$

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

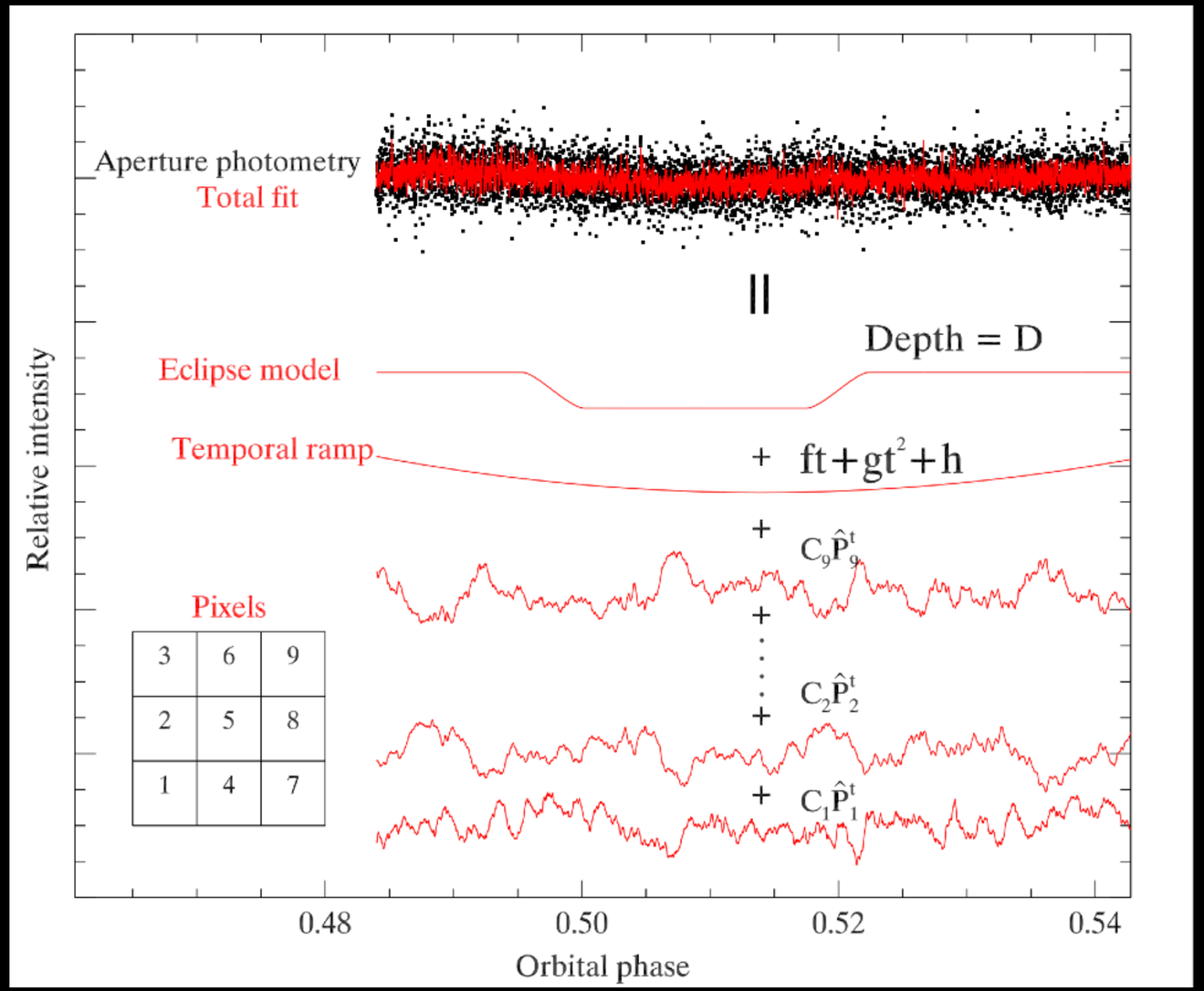
ν_{max} **the frequency of the maximum acoustic power, (heavy smoothing)**

and

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



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



$$\Delta S^t = \sum_{i=1}^{N} c_i \hat{P}_i^t + DE(t) + ft + gt^2 + h, \qquad (4)$$

Deming, D., “Spitzer Secondary Eclipses of the Dense, Modestly-irradiated, Giant Exoplanet HAT-P-20b Using Pixel-level Decorrelation”, The Astrophysical Journal, vol. 805, no. 2, 2015. doi:10.1088/0004-637X/805/2/132.