

7 papers on Kepler DSC stars

Fruitful discussions

Passion for science

THANKS



THE IMPACT OF GAP-FILLING METHODS ON THE DETERMINATION OF PERIODICITIES FOR A-F STARS

STARS 2016 | Windermere UK

J.C. Suárez, A. García Hernández

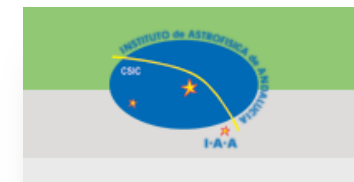
Dept. Física Teórica y del Cosmos. Univ. Granada, Spain



Universidad de Granada

J. Pascual-Granado, R. Garrido

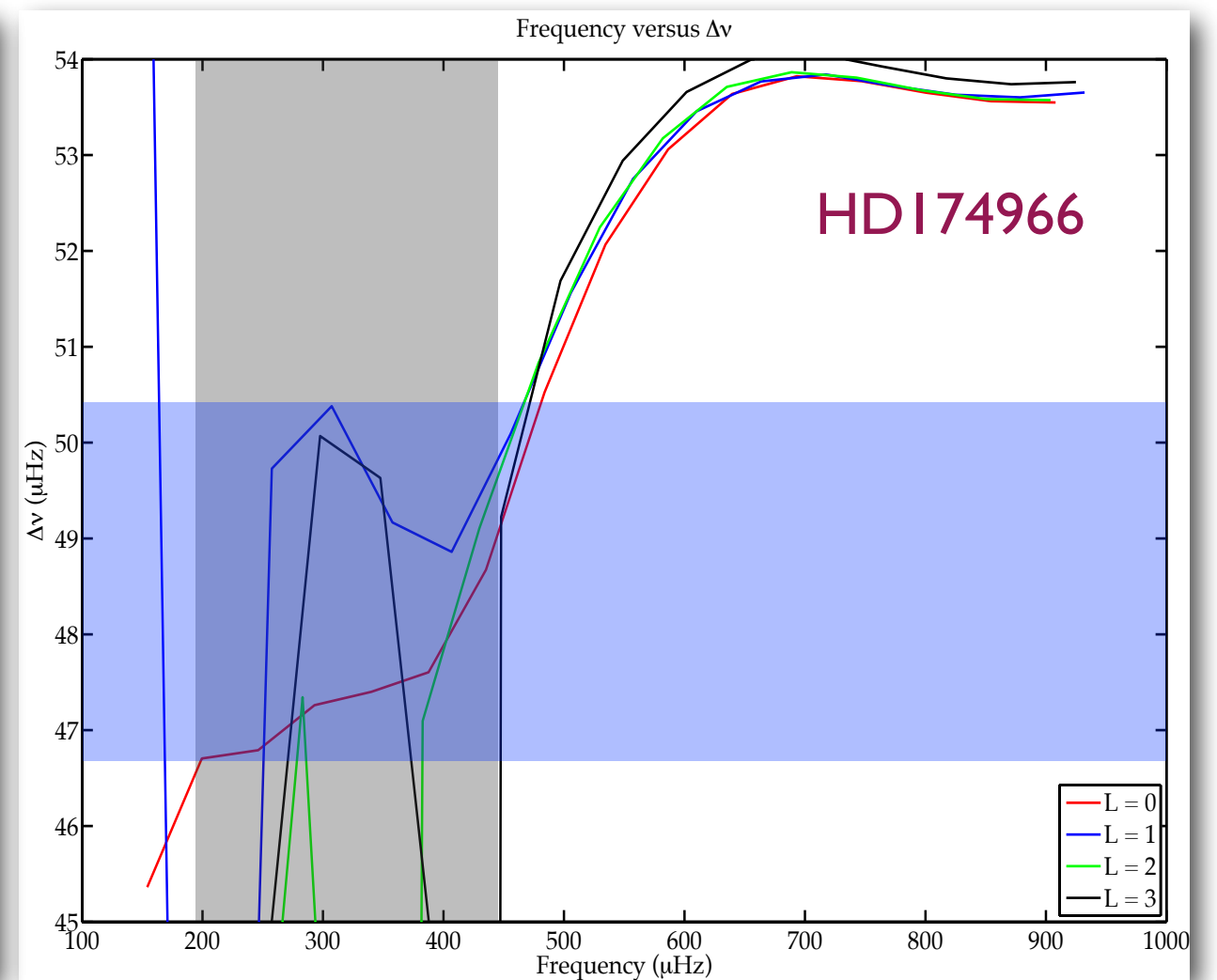
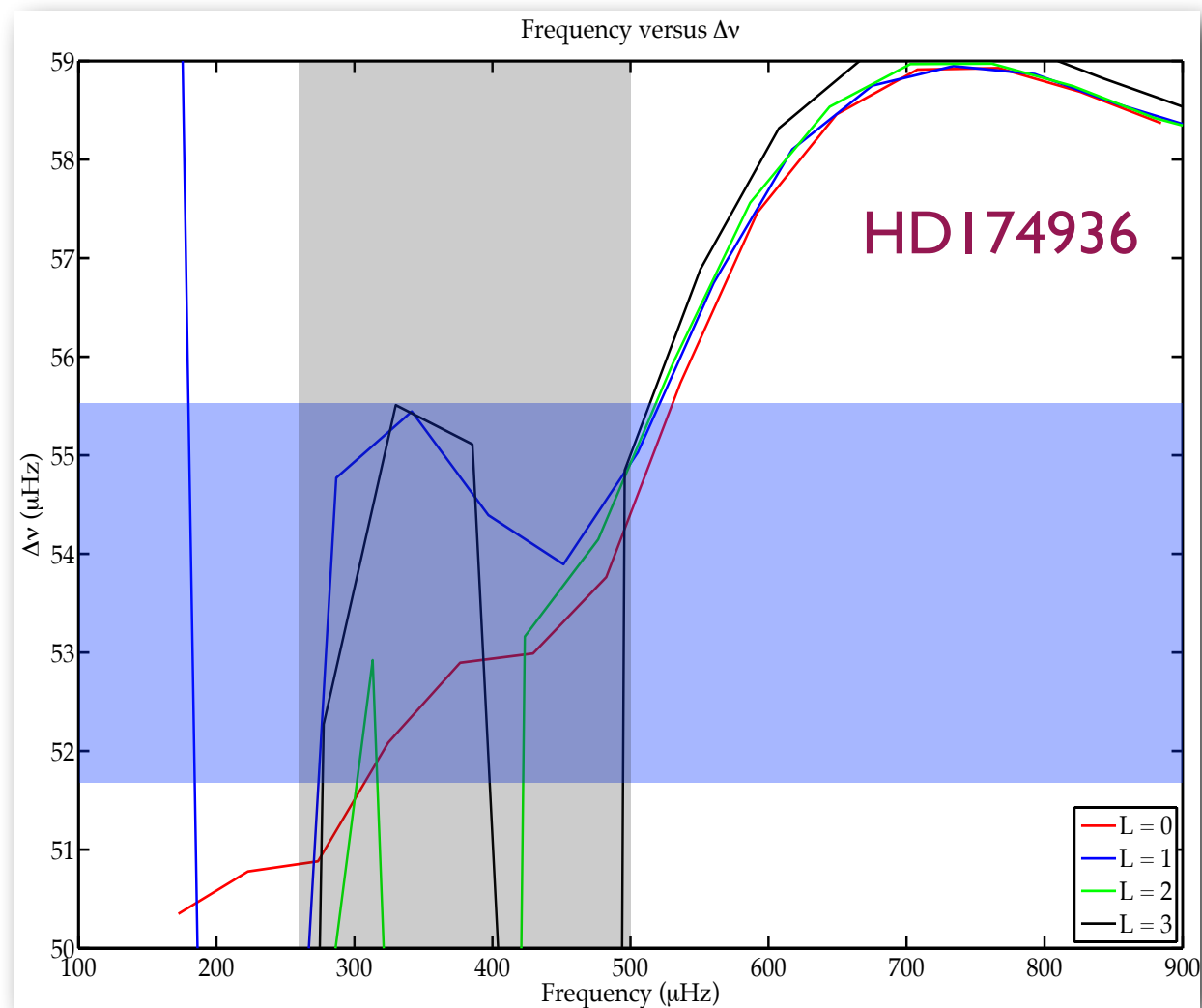
Instituto de Astrofísica de Andalucía (CSIC), Granada, Spain



IN PROGRESS...



SEARCHING FOR PATTERNS

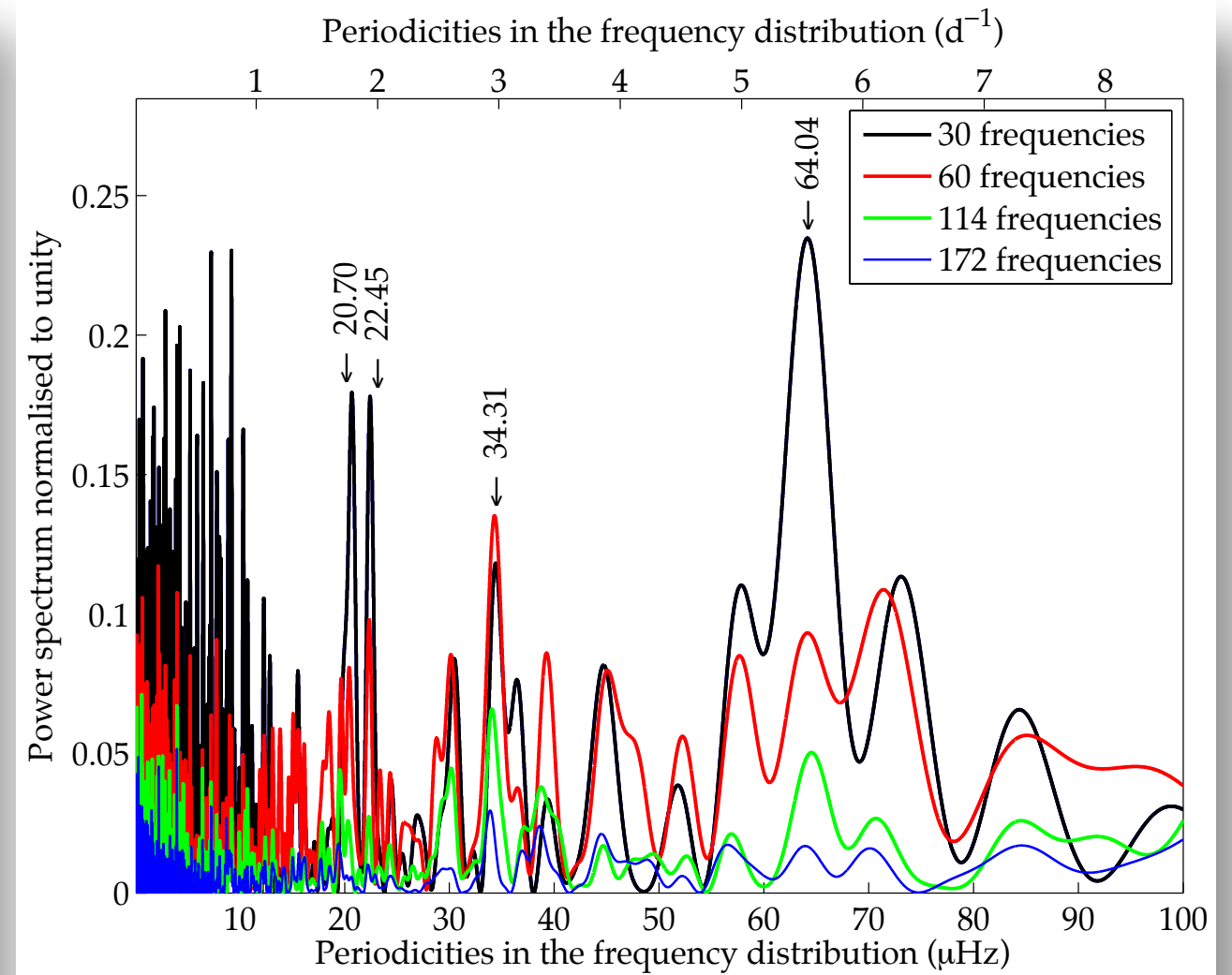
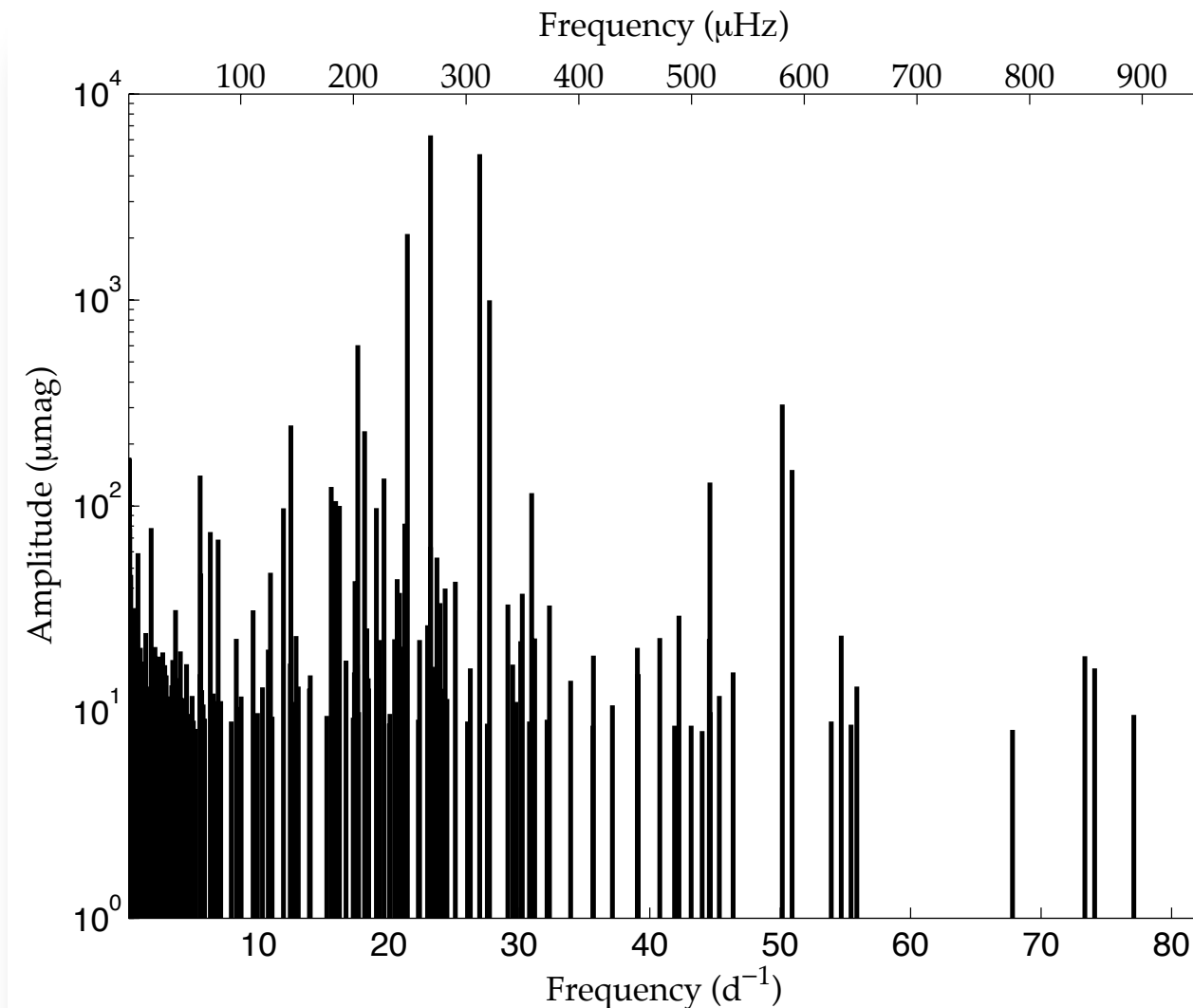


García Hernández et al. A&A 506, 79(2009)

5 μHz

Bounded periodicities in δ Scuti frequency domain

SEARCHING FOR PATTERNS

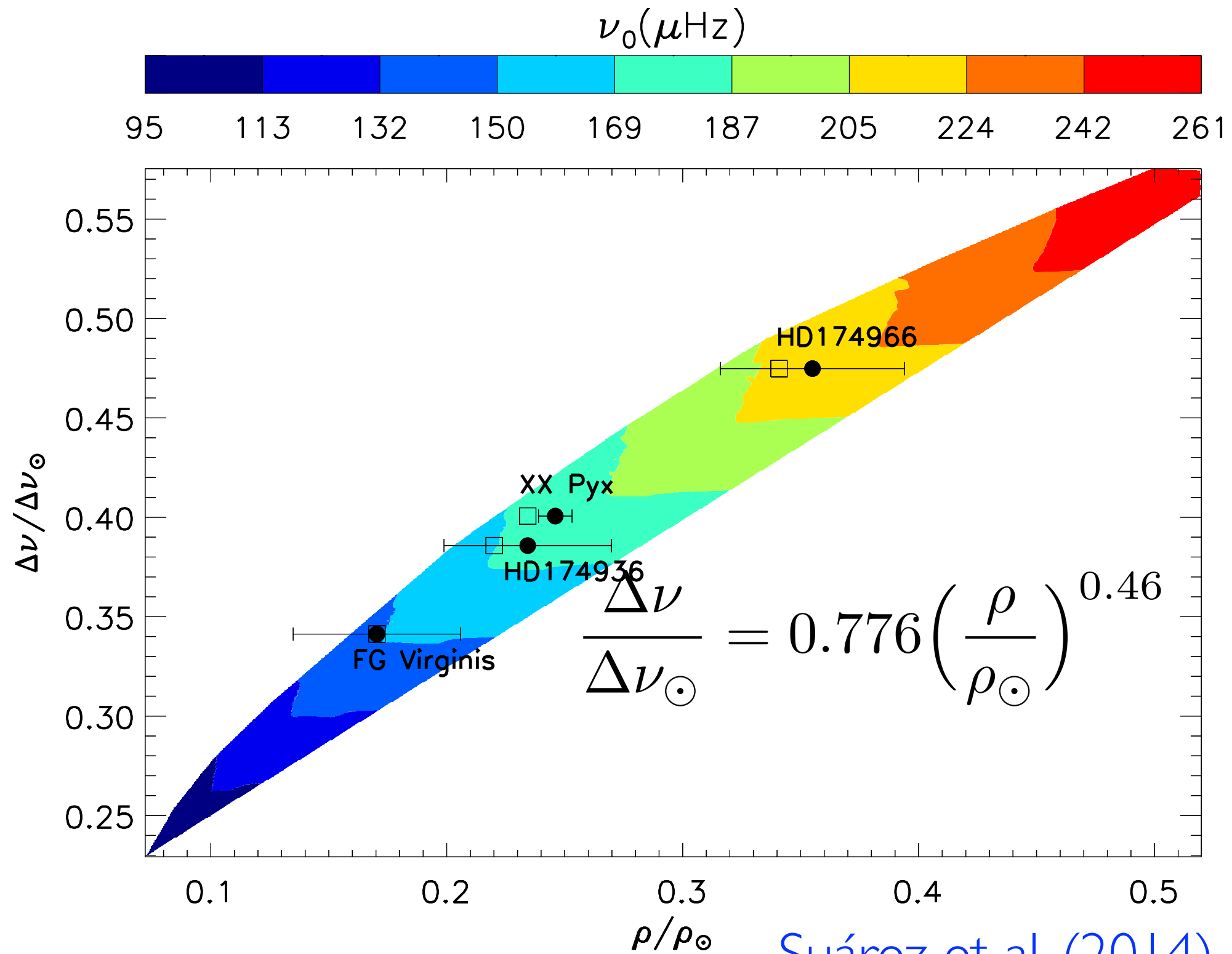


García Hernández et al. A&A 506, 79(2009)

$\Delta\nu$

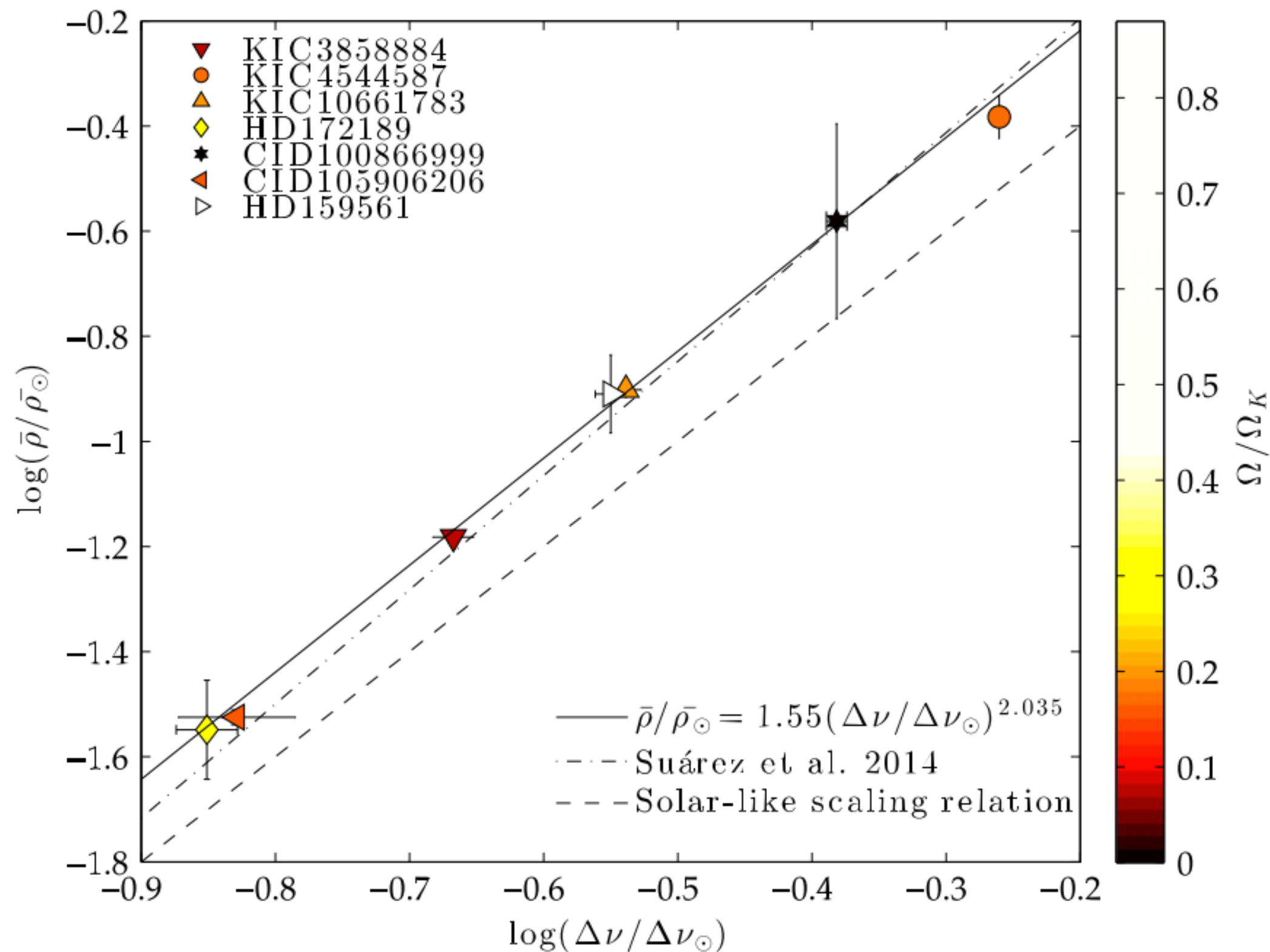
Quasi-Periodic spacing

$\Delta\nu$ - ρ relation similar to solar-like

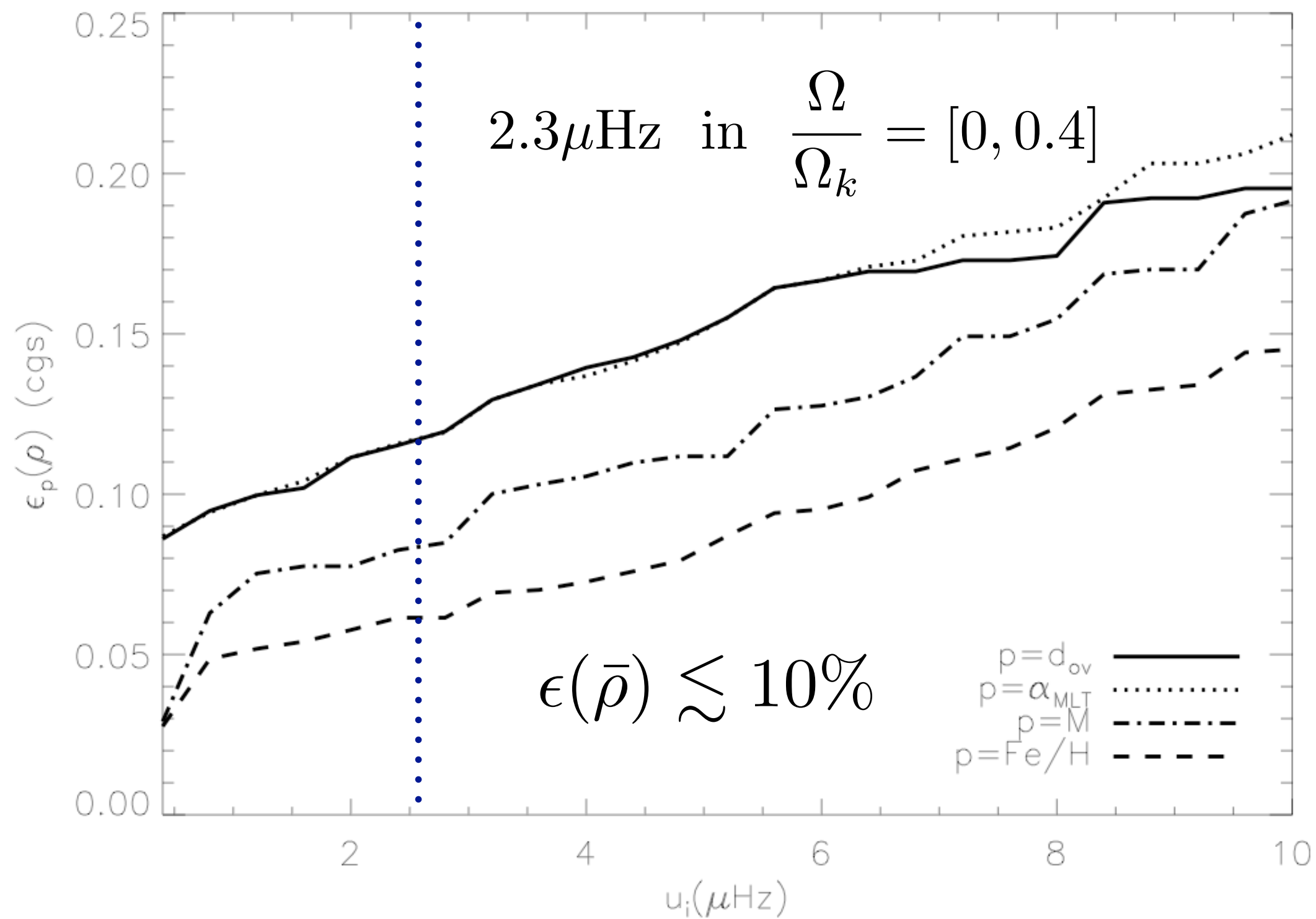


Suárez et al. (2014)

Confirmed empirically with eclipsing binaries



García Hernández et al. (2009)



Suárez et al. (2014)

INGREDIENTS

5 δ Scuti



Classical PW

Cleaning

Gap Filling

Javier's talk



Gap filling



Pre whitening



$\Delta v, \epsilon(\Delta v)$

A, L, G

Frequencies

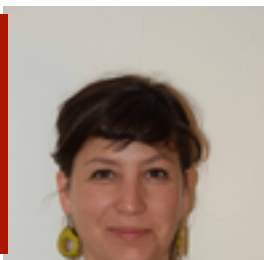
?

number

$\rho, \epsilon(\rho)$

distribution

R. Ouazzani's
talk



2D | NP approach

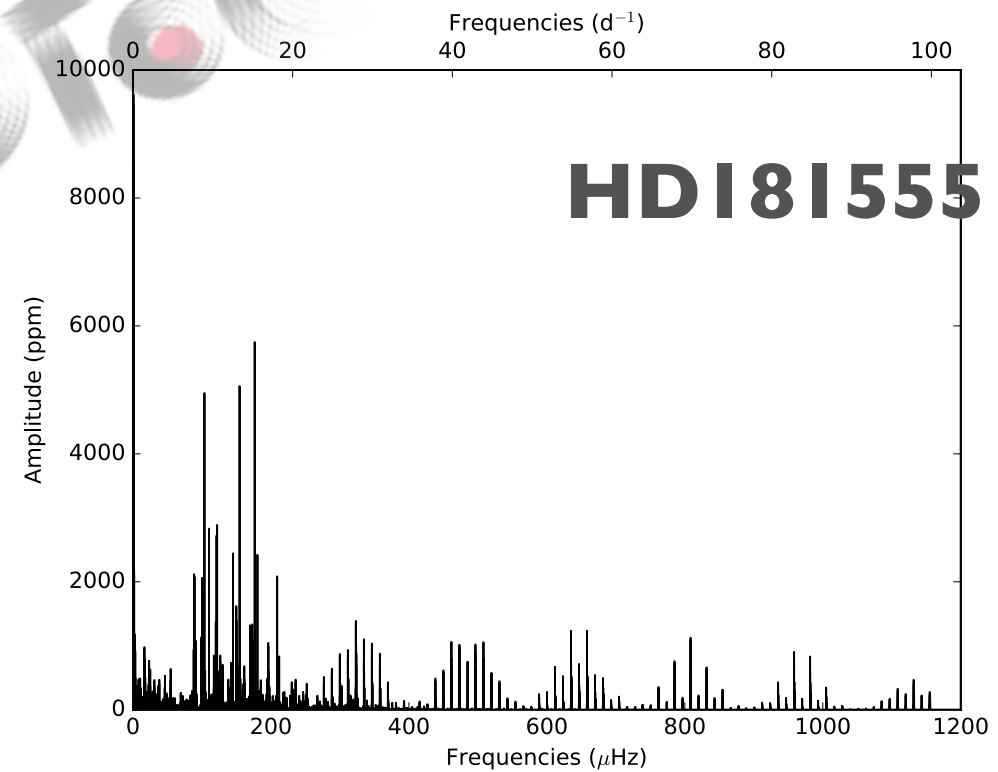
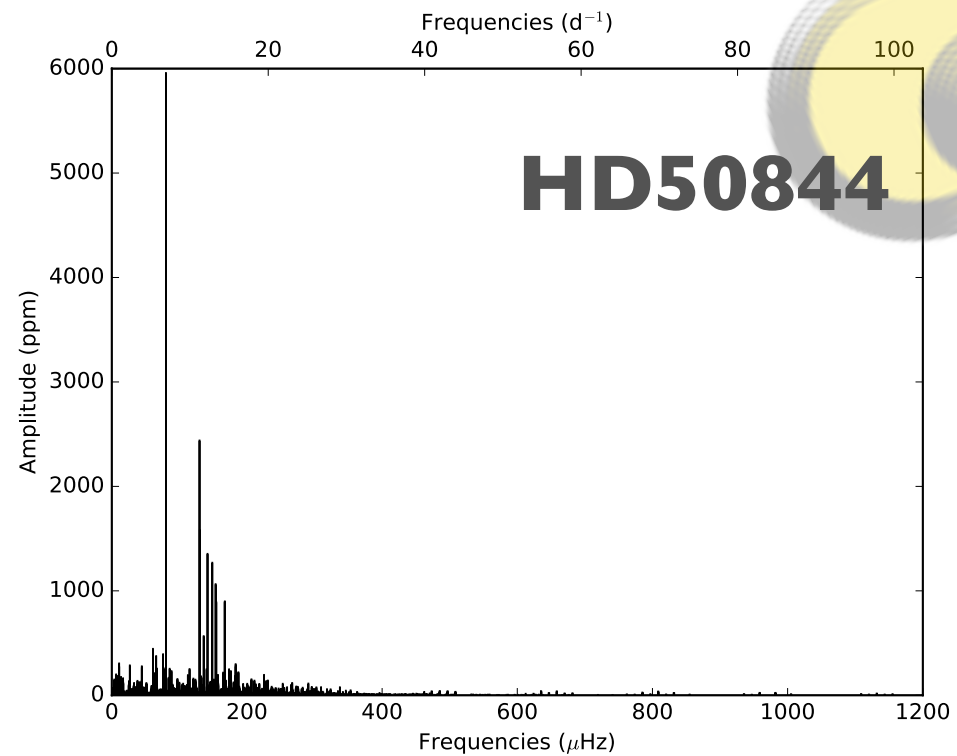
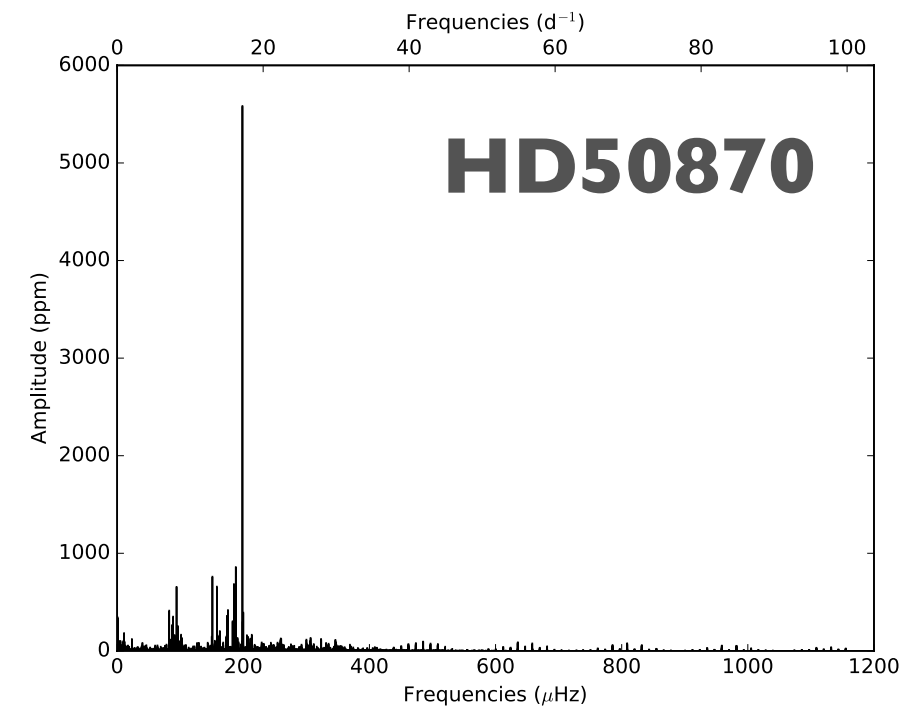
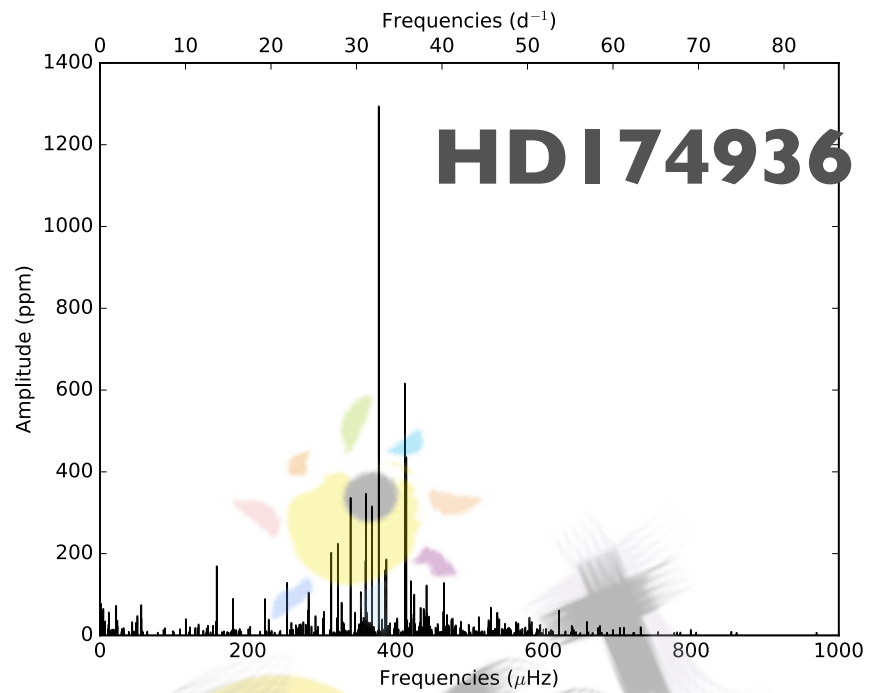
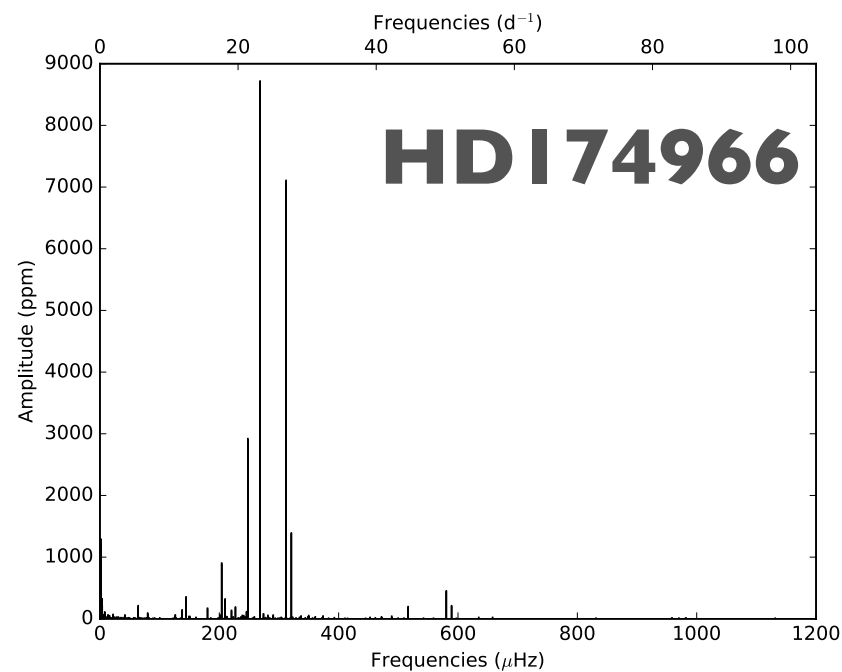
M. Paparò's
poster

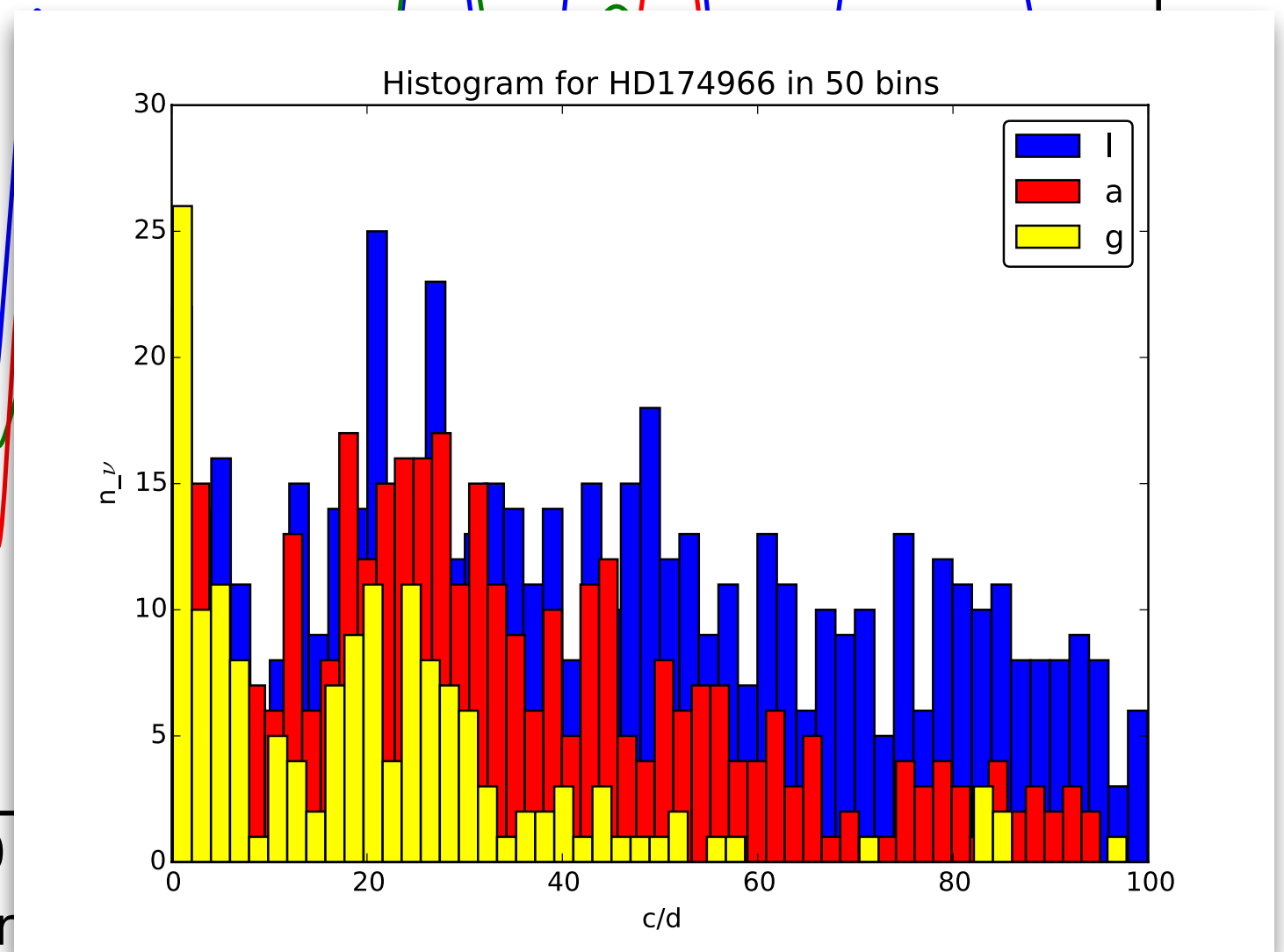
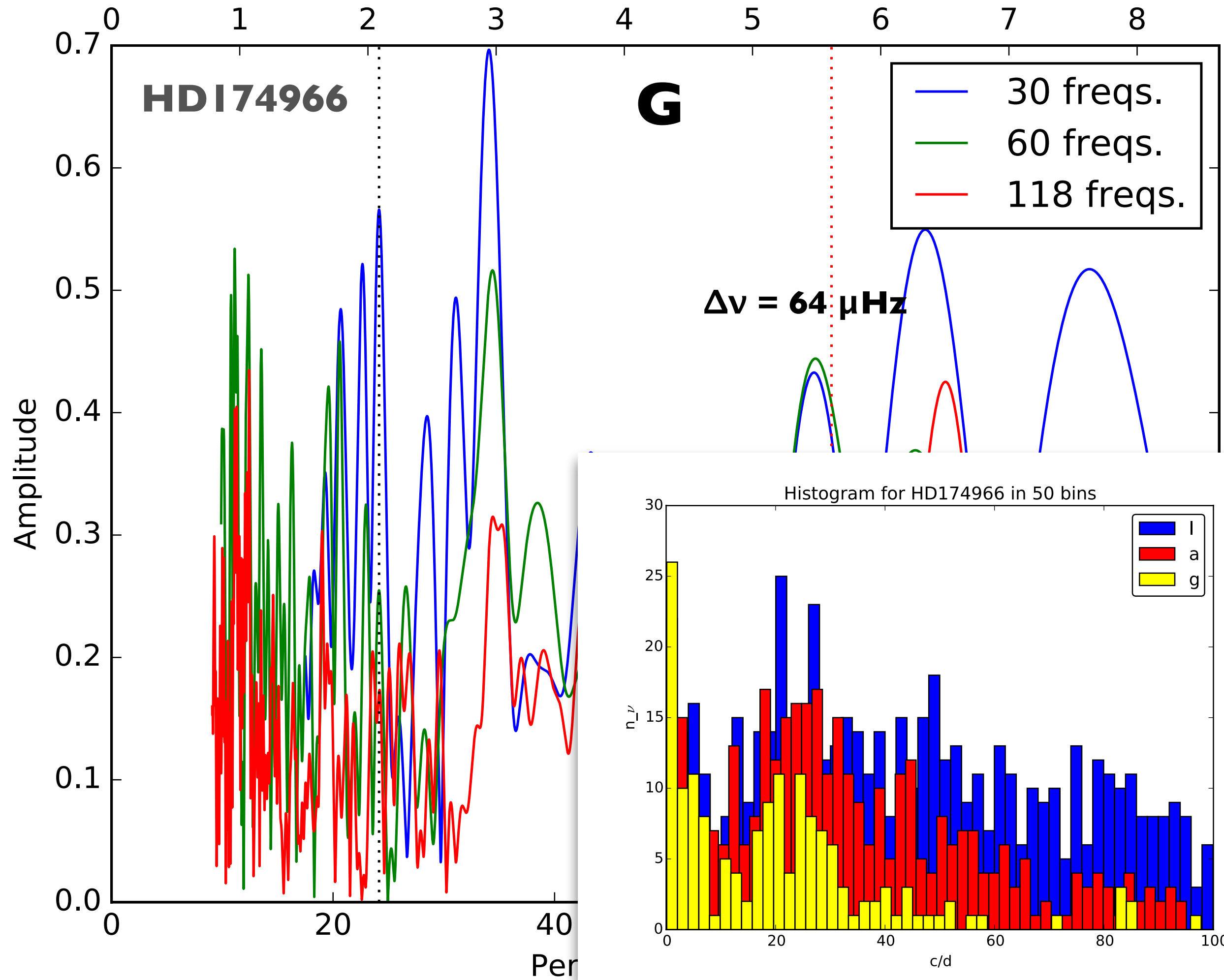
SSA method

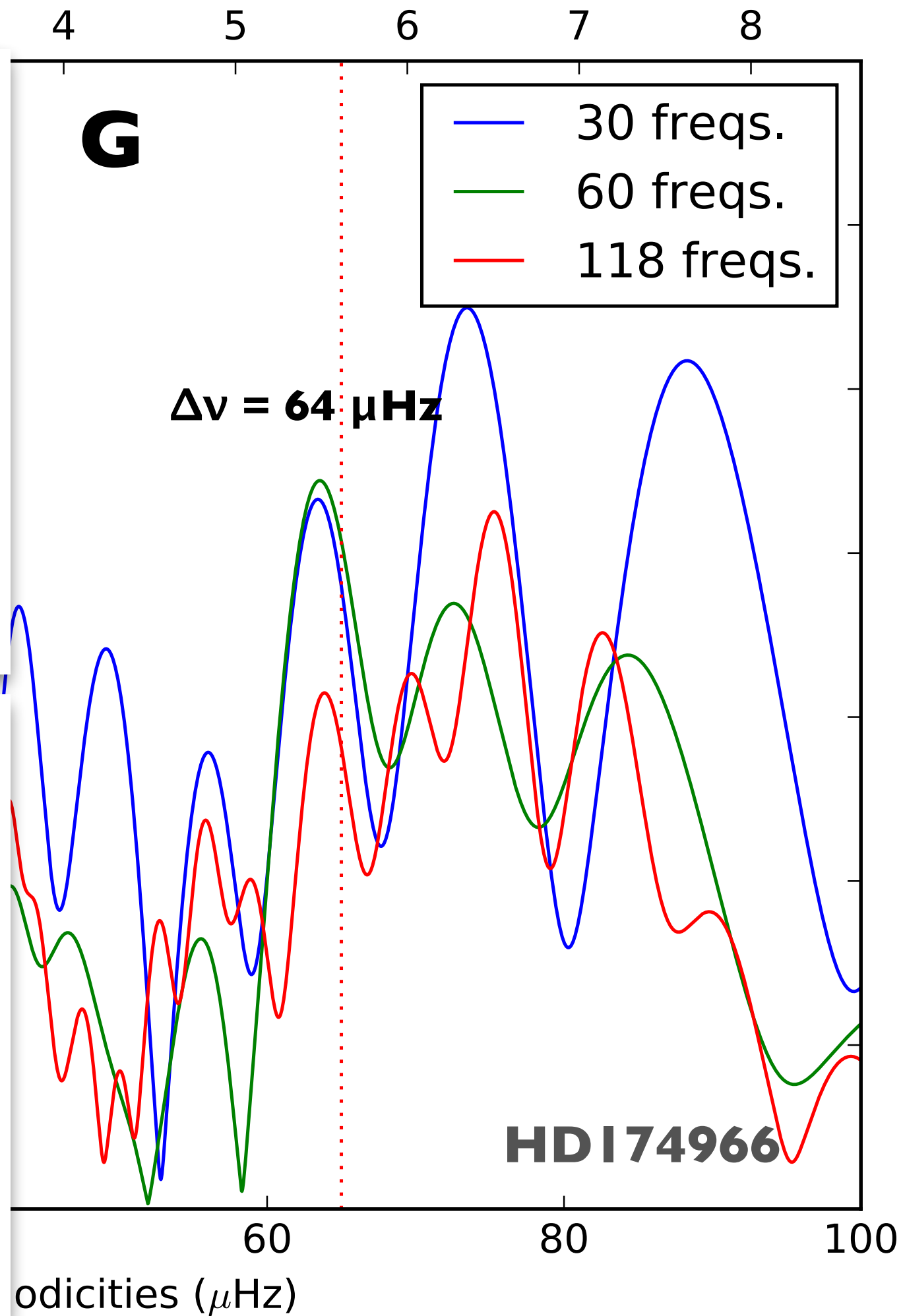
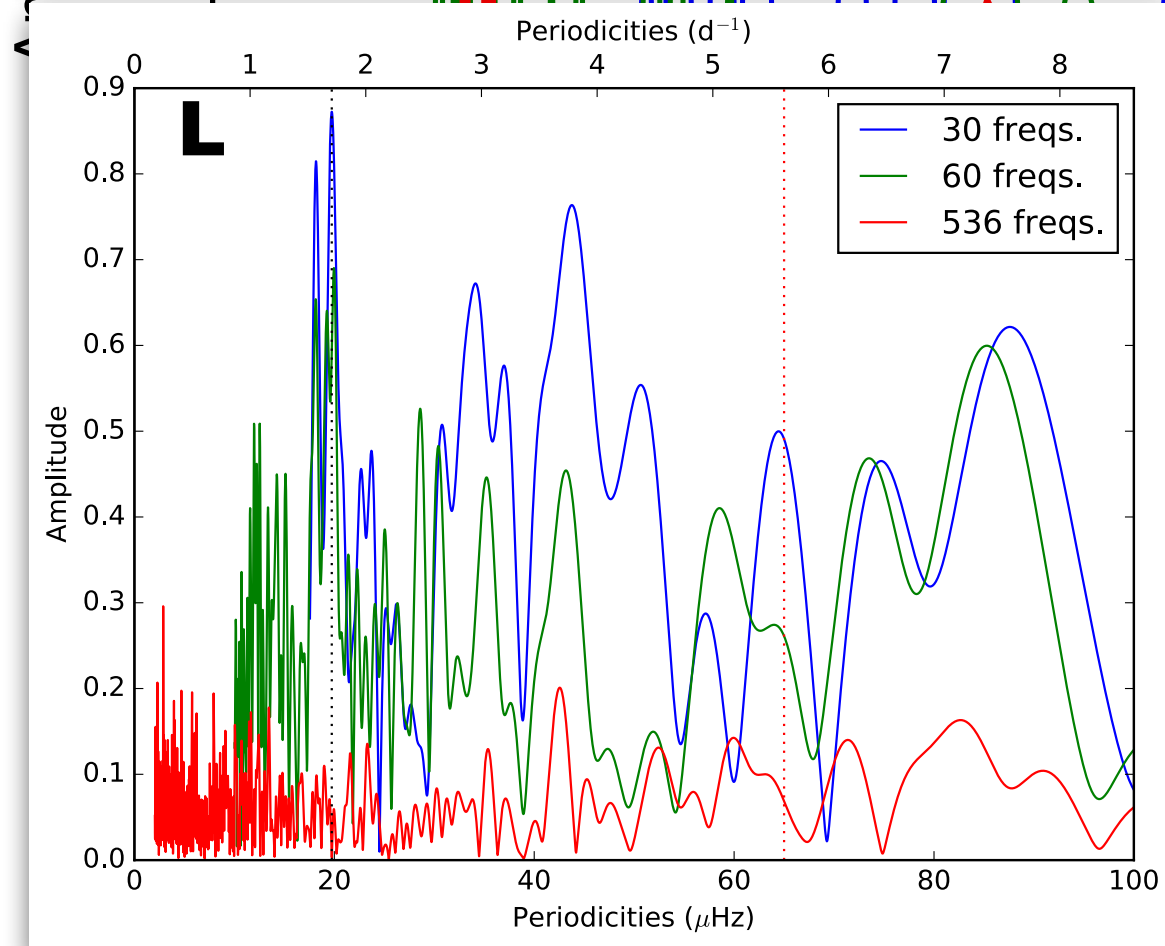
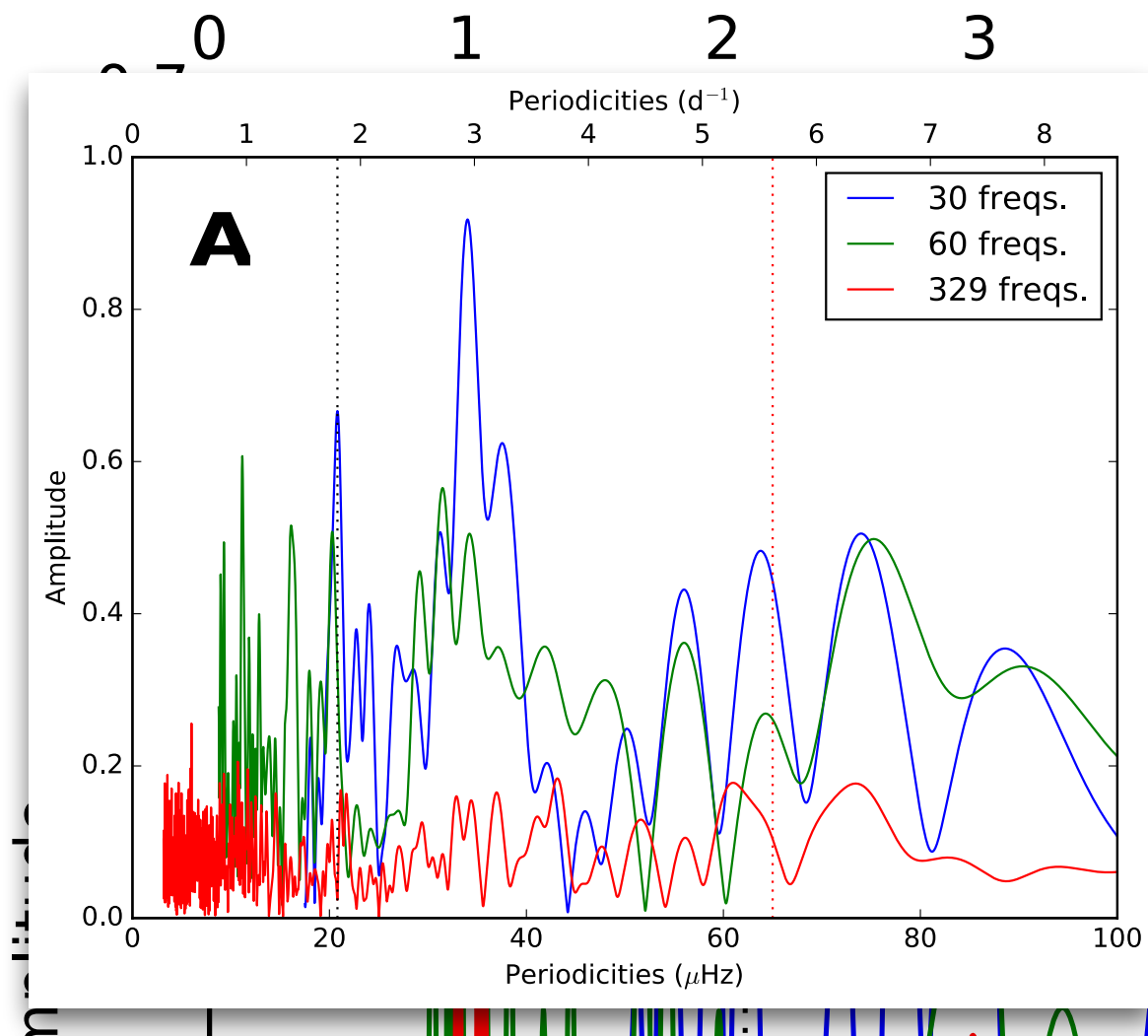
ApJSS 224, 41 (2016)

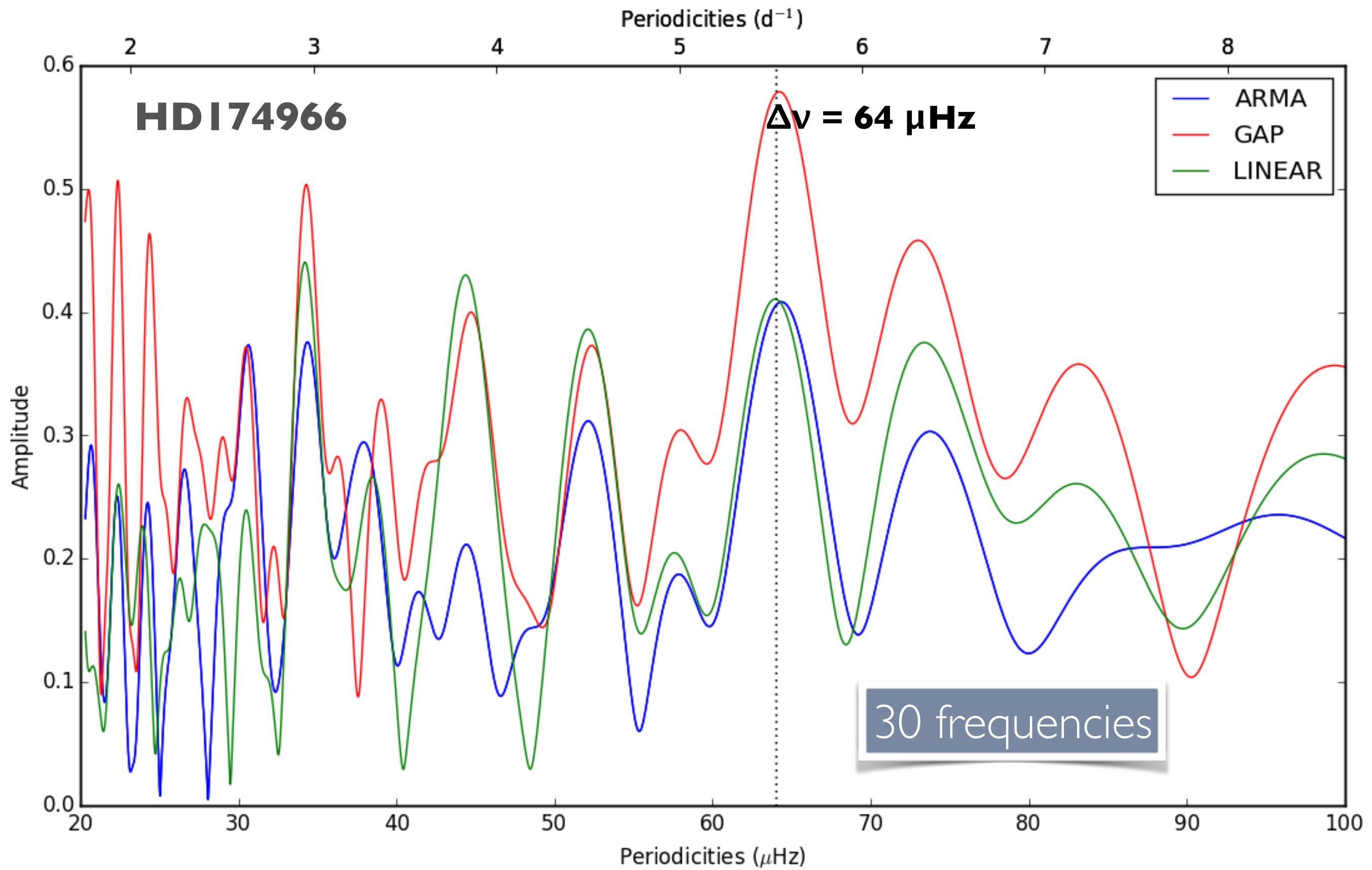


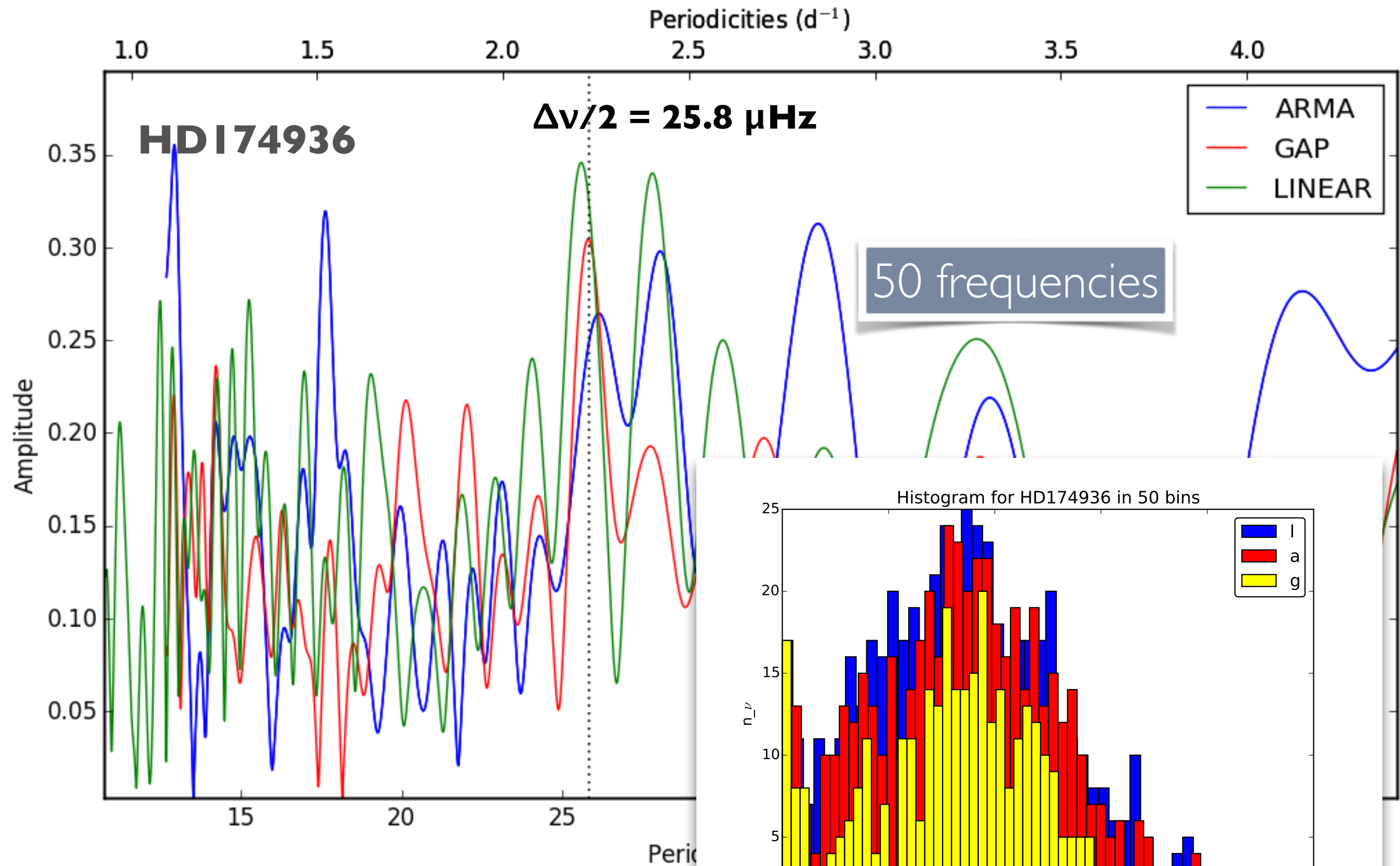
THE SAMPLE

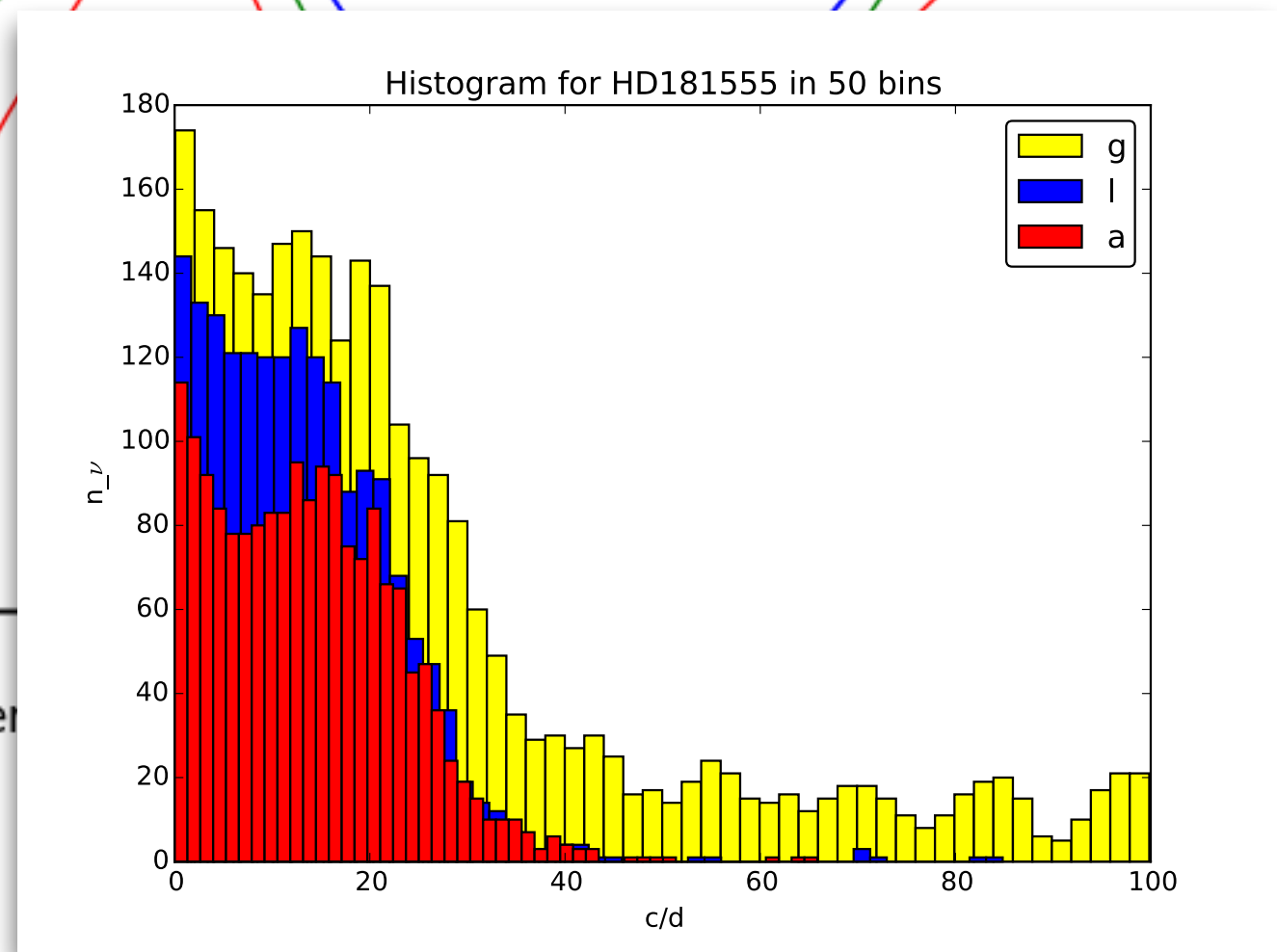
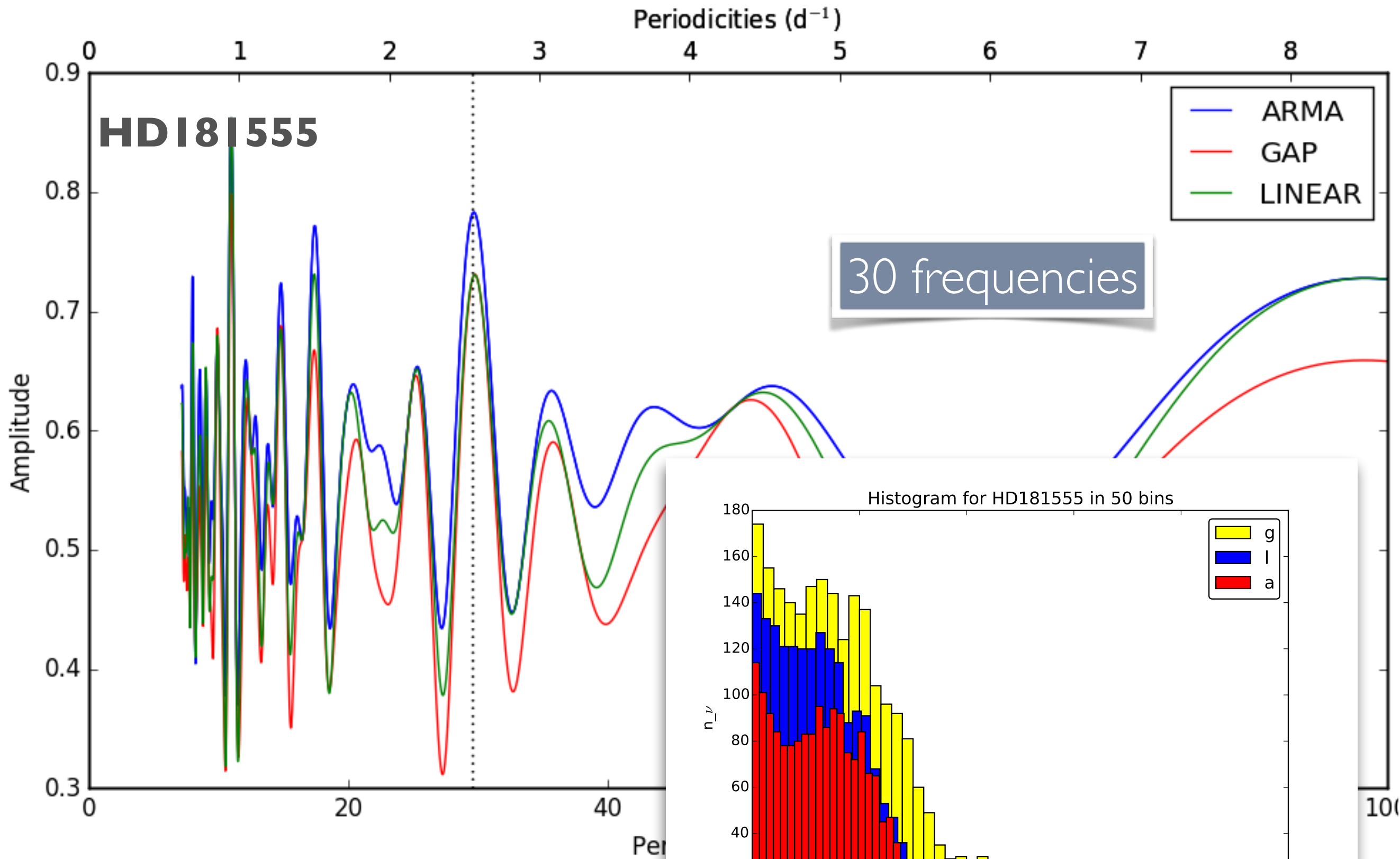






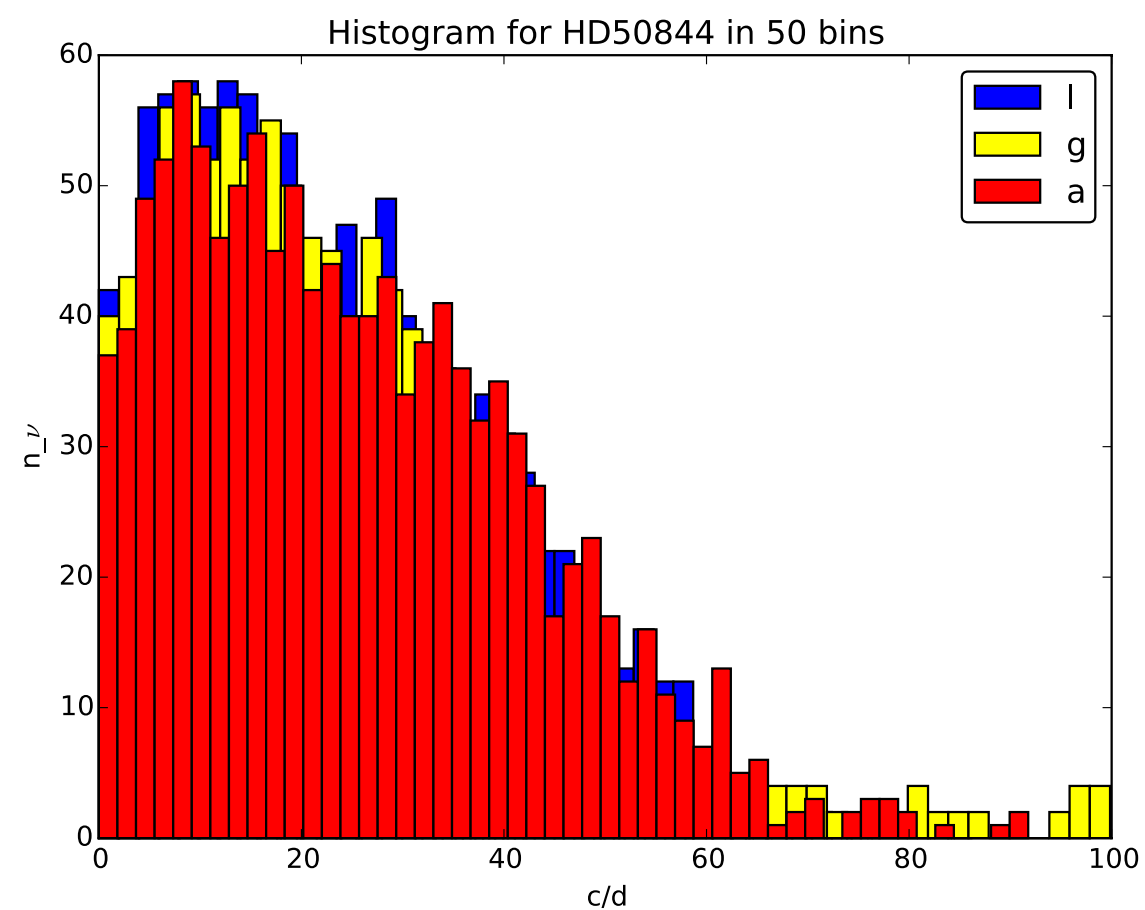
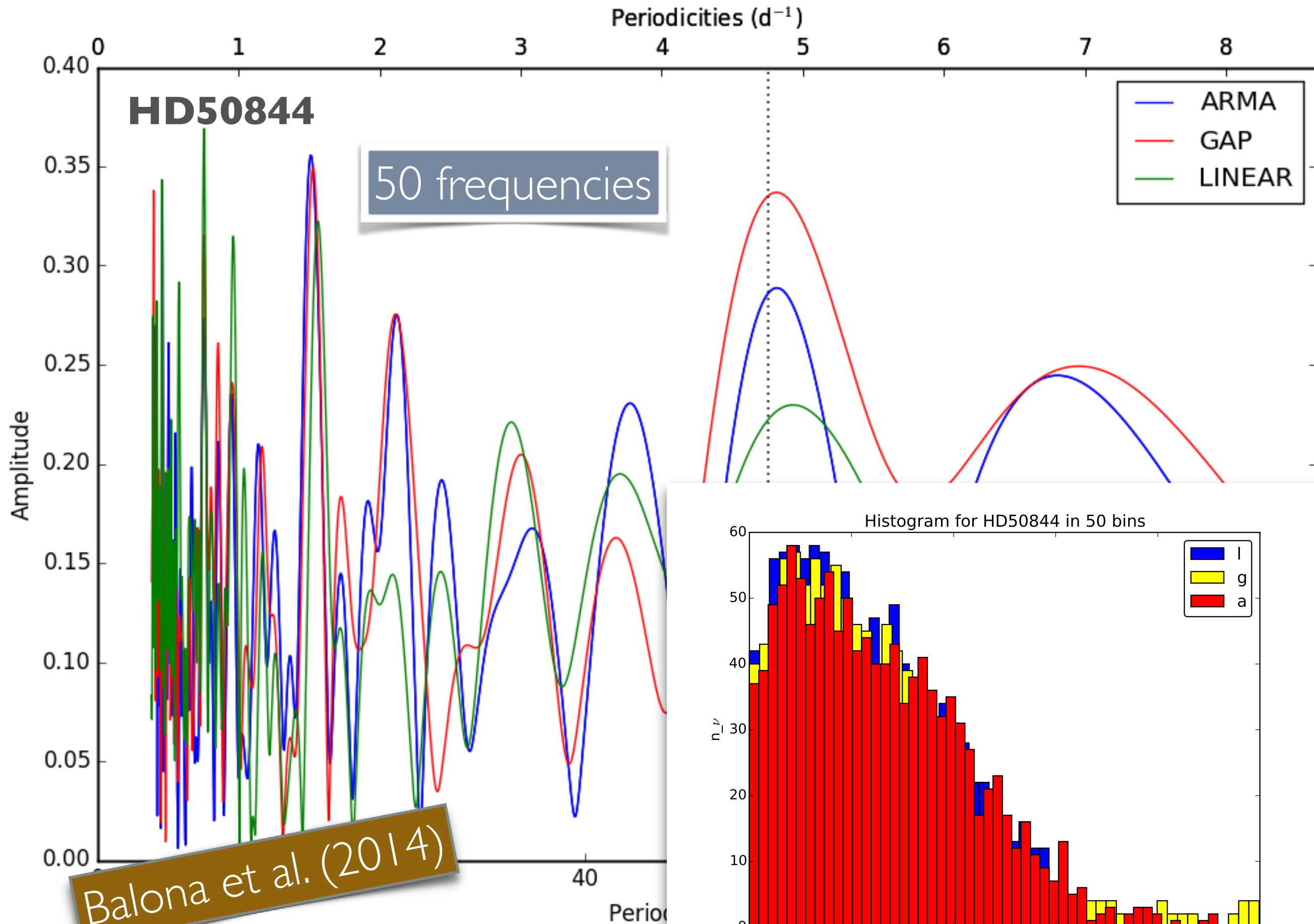


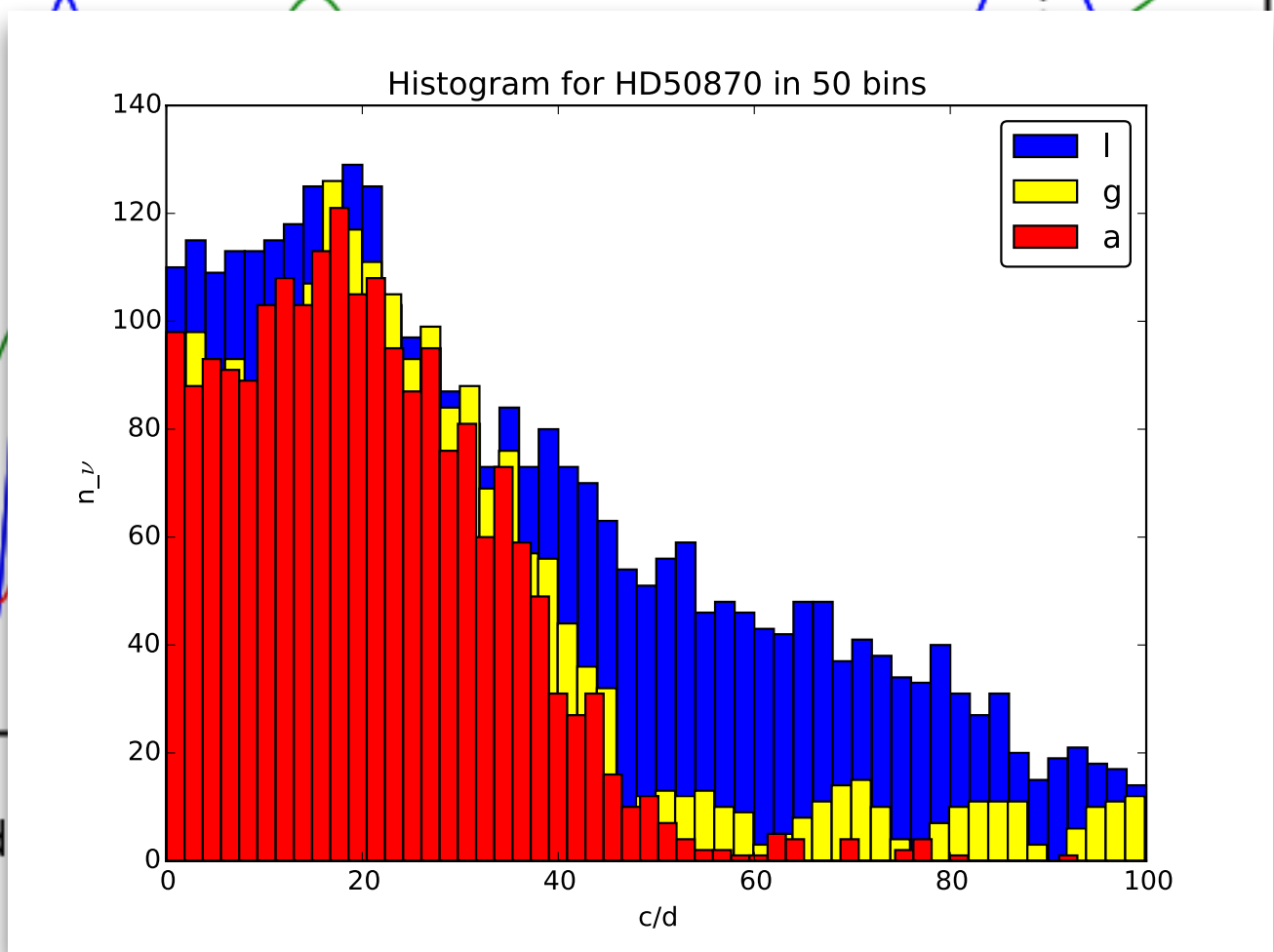
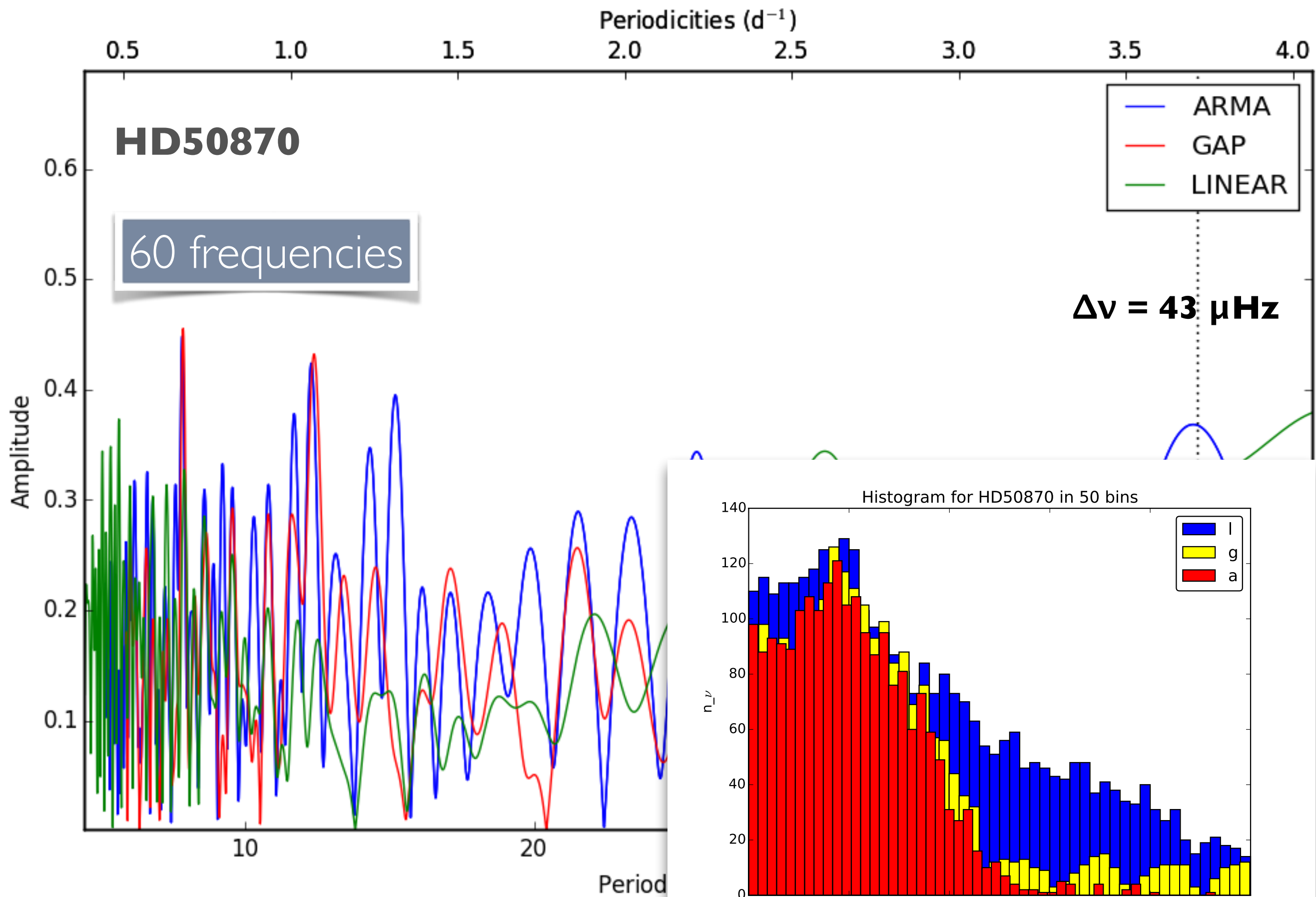




HD50844

50 frequencies





PRELIMINARY CONCLUSIONS

Pre whitening implies confusion in DFT analysis

Proper cleaning seems crucial

Supports ARMA filling + no-PW as best procedure

CONTINUATION

Complete the analysis (15 stars from CoRoT SF)

Comparison with $A+\Phi$ cleaning (Garrido & Rodríguez 1996)

THANKS

