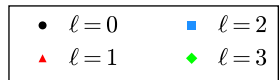


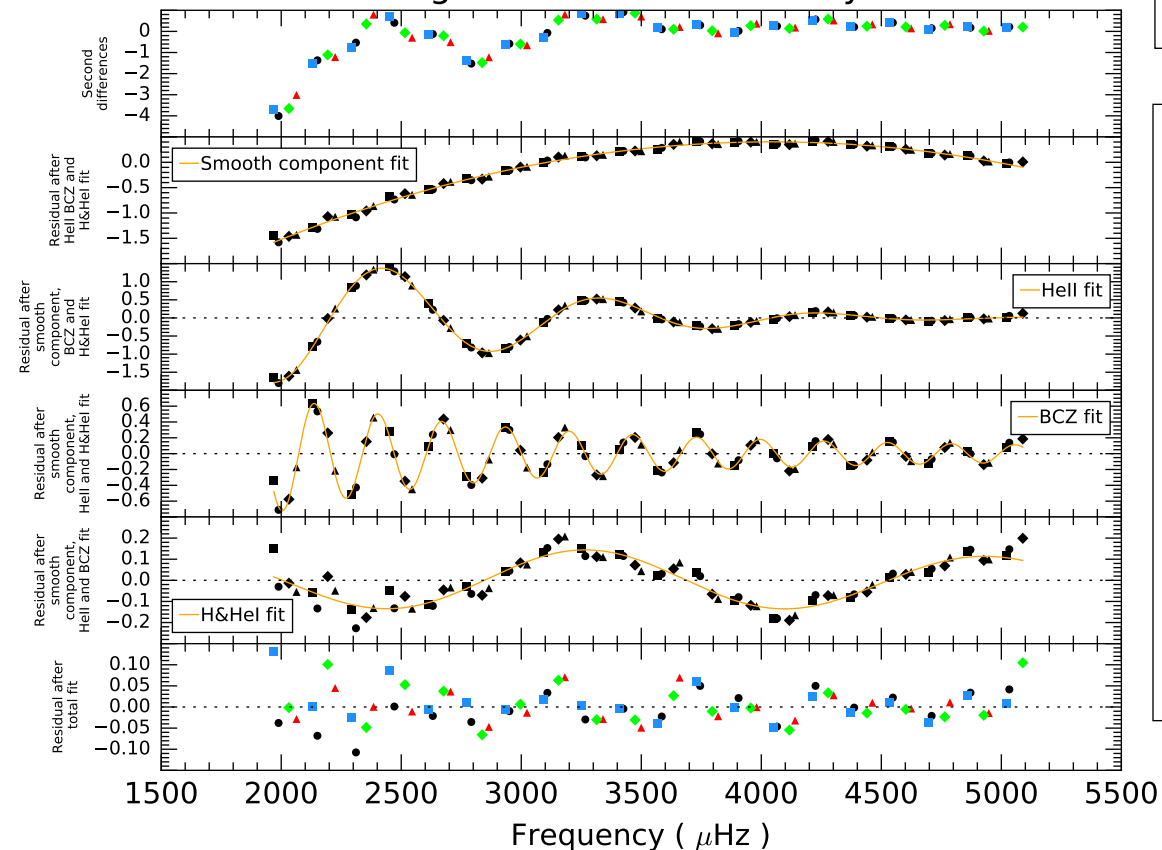
Age after ZAMS: 0.000 Gyr



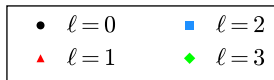
$$\begin{aligned}
 a_0 &= -7.1259 \mu \text{ Hz} \\
 a_1 &= 0.0037231 \\
 a_2 &= -4.6018e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0022517 \\
 c_2 &= 2.3458e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 545.75 \text{ s} \\
 \phi_{HeII} &= 3.73 \\
 b_2 &= 2.899e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1884.6 \text{ s} \\
 \phi_{CZ} &= 1.183 \\
 d_0 &= 7.3299e-05 \\
 d_2 &= 4.7452e-08 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 297.36 \text{ s} \\
 \phi_{HI} &= 1.9293
 \end{aligned}$$

profile1

$$\chi^2_\nu(\text{dof} = 65) = 0.0020981$$



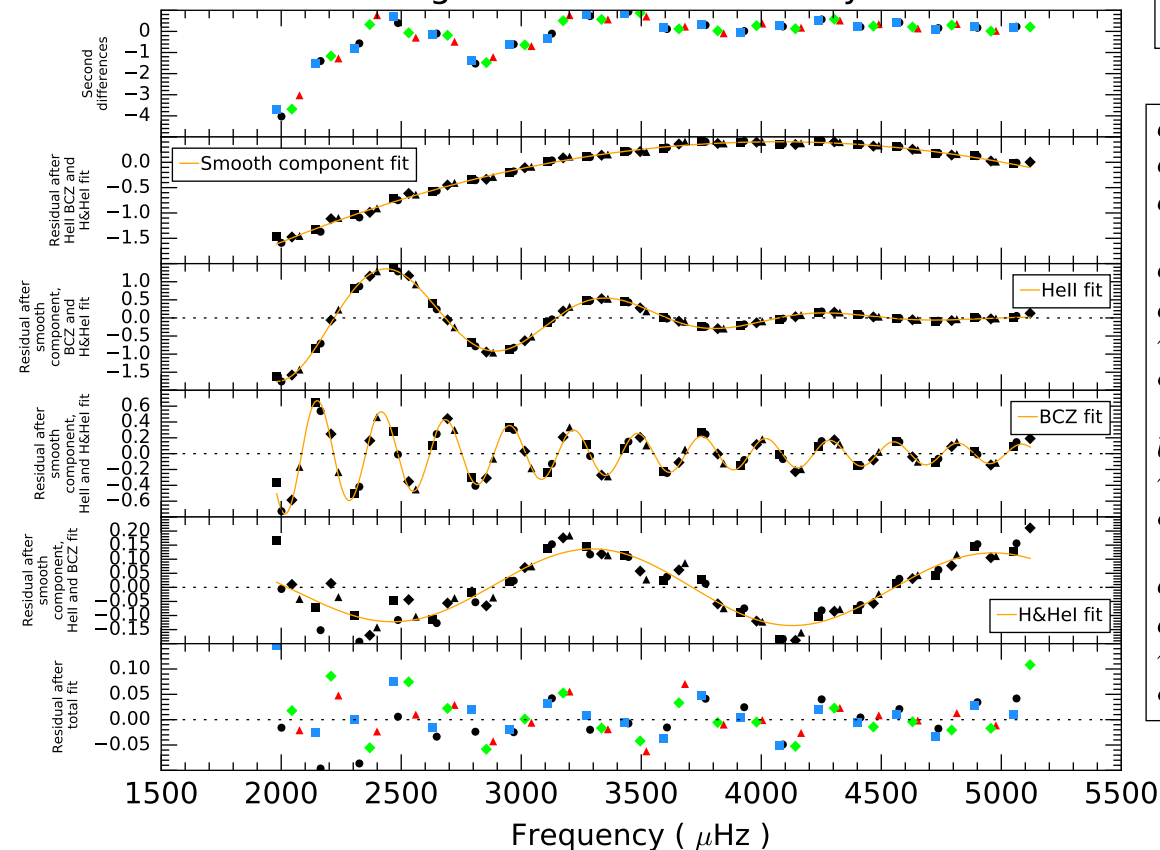
Age after ZAMS: 0.000 Gyr



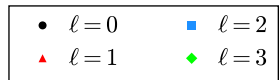
$$\begin{aligned}
 a_0 &= -7.2571 \mu \text{ Hz} \\
 a_1 &= 0.0037656 \\
 a_2 &= -4.626e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0021849 \\
 c_2 &= 2.2937e-07 \mu \text{ Hz}^{-2} \\
 \tau_{\text{He II}} &= 541.32 \text{ s} \\
 \phi_{\text{He II}} &= 3.7413 \\
 b_2 &= 3.0984e+06 \text{ mHz}^3 \\
 \tau_{\text{CZ}} &= 1874.3 \text{ s} \\
 \phi_{\text{CZ}} &= 1.1571 \\
 d_0 &= 6.2481e-05 \\
 d_2 &= 3.7631e-08 \mu \text{ Hz}^{-2} \\
 \tau_{\text{HI}} &= 296.49 \text{ s} \\
 \phi_{\text{HI}} &= 1.8755
 \end{aligned}$$

profile2

$$\chi^2_{\nu}(\text{dof} = 65) = 0.0020448$$



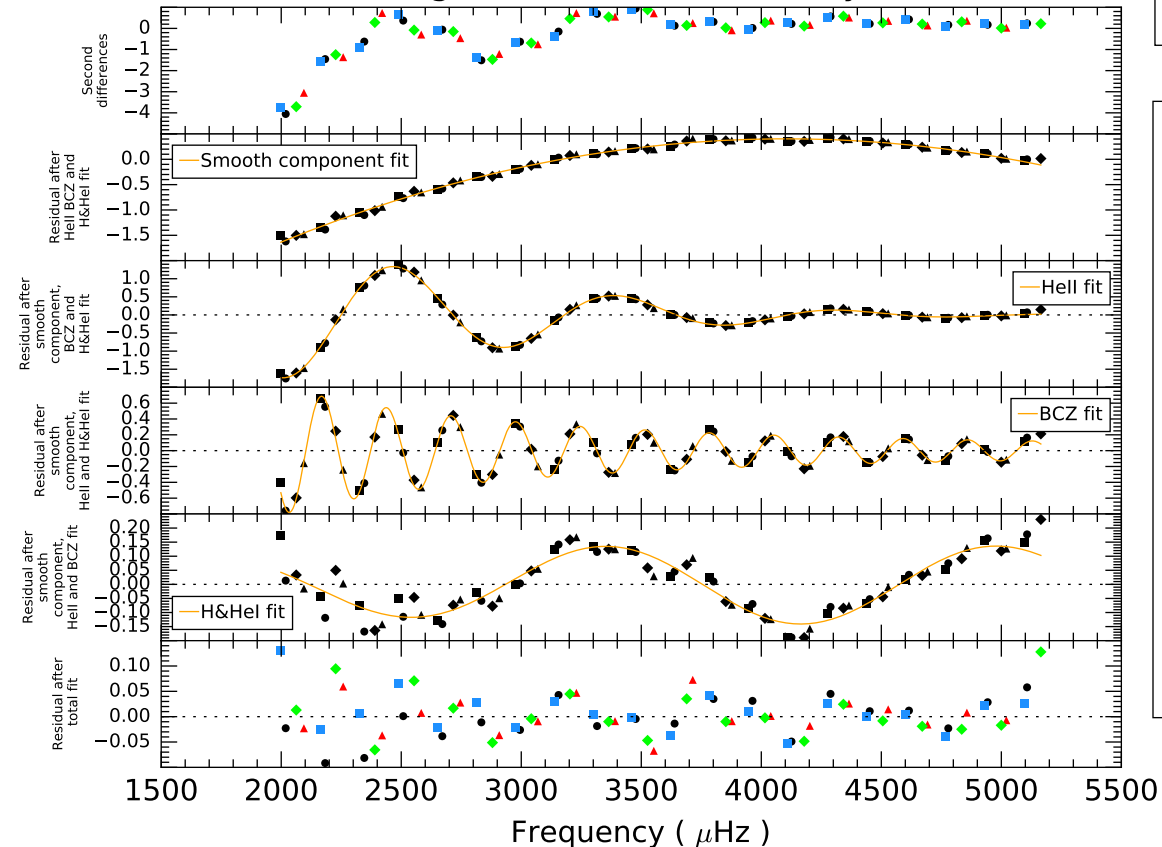
Age after ZAMS: 0.001 Gyr



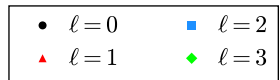
$$\begin{aligned}
 a_0 &= -7.3492 \mu \text{ Hz} \\
 a_1 &= 0.0037781 \\
 a_2 &= -4.6024e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0021649 \\
 c_2 &= 2.2691e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 537.42 \text{ s} \\
 \phi_{HeII} &= 3.6643 \\
 b_2 &= 3.2322e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1857.8 \text{ s} \\
 \phi_{CZ} &= 1.1825 \\
 d_0 &= 5.5615e-05 \\
 d_2 &= 2.8657e-08 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 305.02 \text{ s} \\
 \phi_{HI} &= 1.3179
 \end{aligned}$$

profile3

$$\chi^2_\nu(\text{dof} = 65) = 0.0020718$$



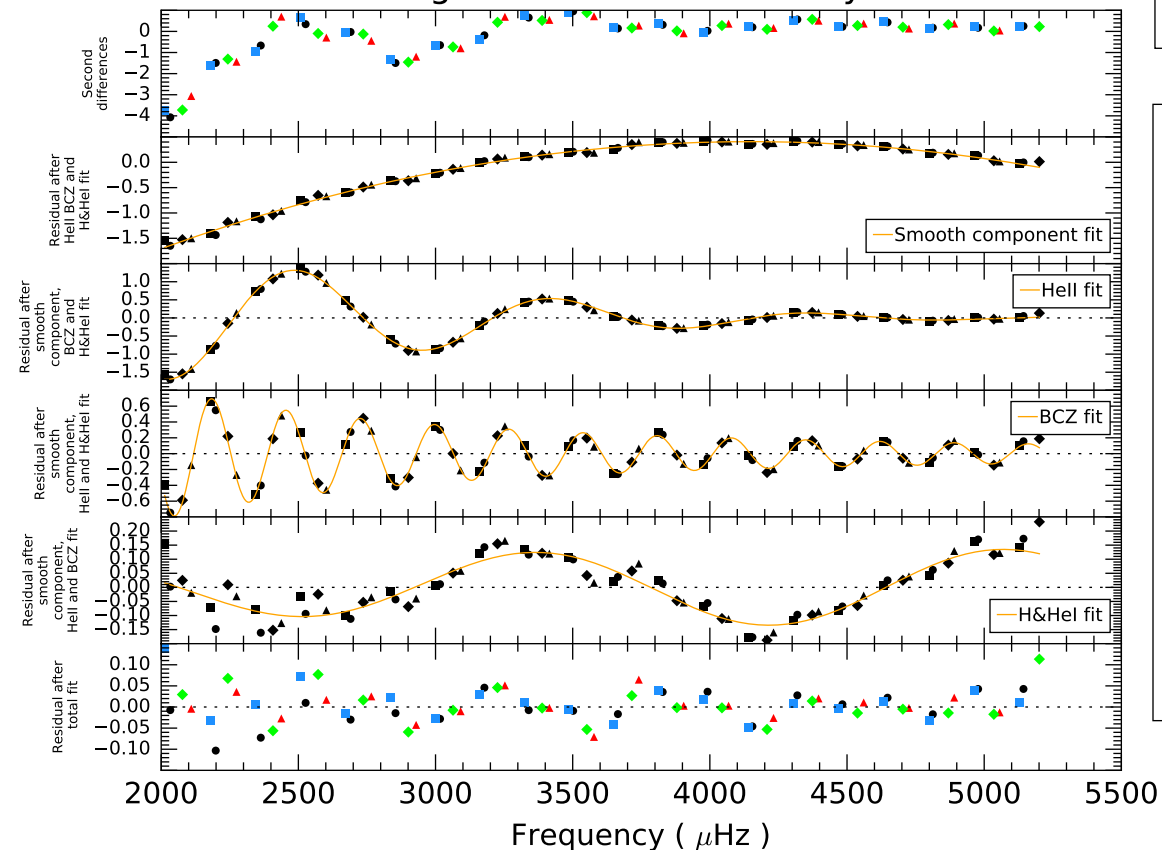
Age after ZAMS: 0.002 Gyr



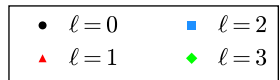
$$\begin{aligned}
 a_0 &= -7.4724 \mu \text{ Hz} \\
 a_1 &= 0.0037996 \\
 a_2 &= -4.5799e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0020568 \\
 c_2 &= 2.1881e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 529.49 \text{ s} \\
 \phi_{HeII} &= 3.7823 \\
 b_2 &= 3.3082e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1847.9 \text{ s} \\
 \phi_{CZ} &= 1.0892 \\
 d_0 &= 4.7868e-05 \\
 d_2 &= 2.2847e-08 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 290.87 \text{ s} \\
 \phi_{HI} &= 1.8824
 \end{aligned}$$

profile4

$$\chi^2_{\nu}(\text{dof} = 65) = 0.0019382$$



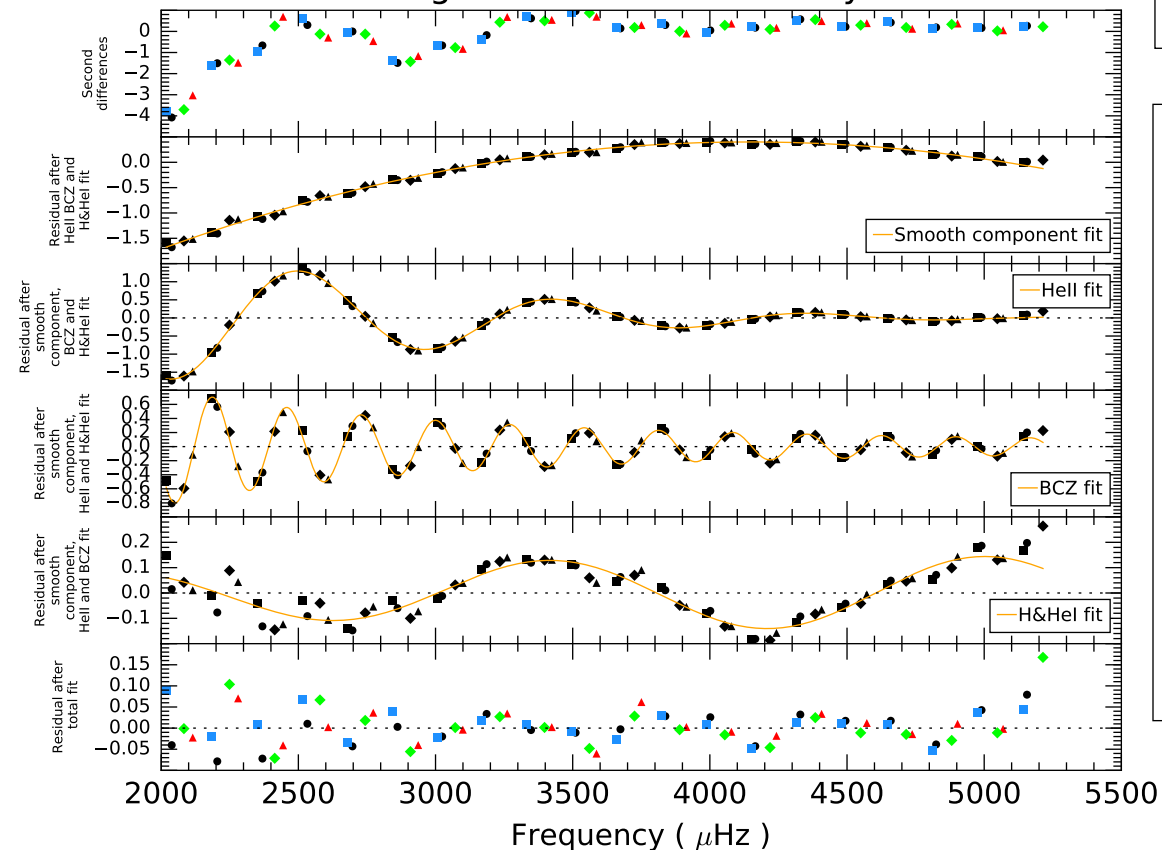
Age after ZAMS: 0.004 Gyr



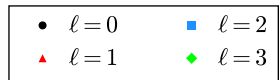
$$\begin{aligned}
 a_0 &= -7.4892 \mu \text{ Hz} \\
 a_1 &= 0.0038081 \\
 a_2 &= -4.5941e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.002093 \\
 c_2 &= 2.2261e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 533.49 \text{ s} \\
 \phi_{HeII} &= 3.5733 \\
 b_2 &= 3.3661e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1845.5 \text{ s} \\
 \phi_{CZ} &= 1.0931 \\
 d_0 &= 4.772e-05 \\
 d_2 &= 2.0179e-08 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 313.22 \text{ s} \\
 \phi_{HI} &= 0.73025
 \end{aligned}$$

profile5

$$\chi^2_\nu(\text{dof} = 65) = 0.002144$$



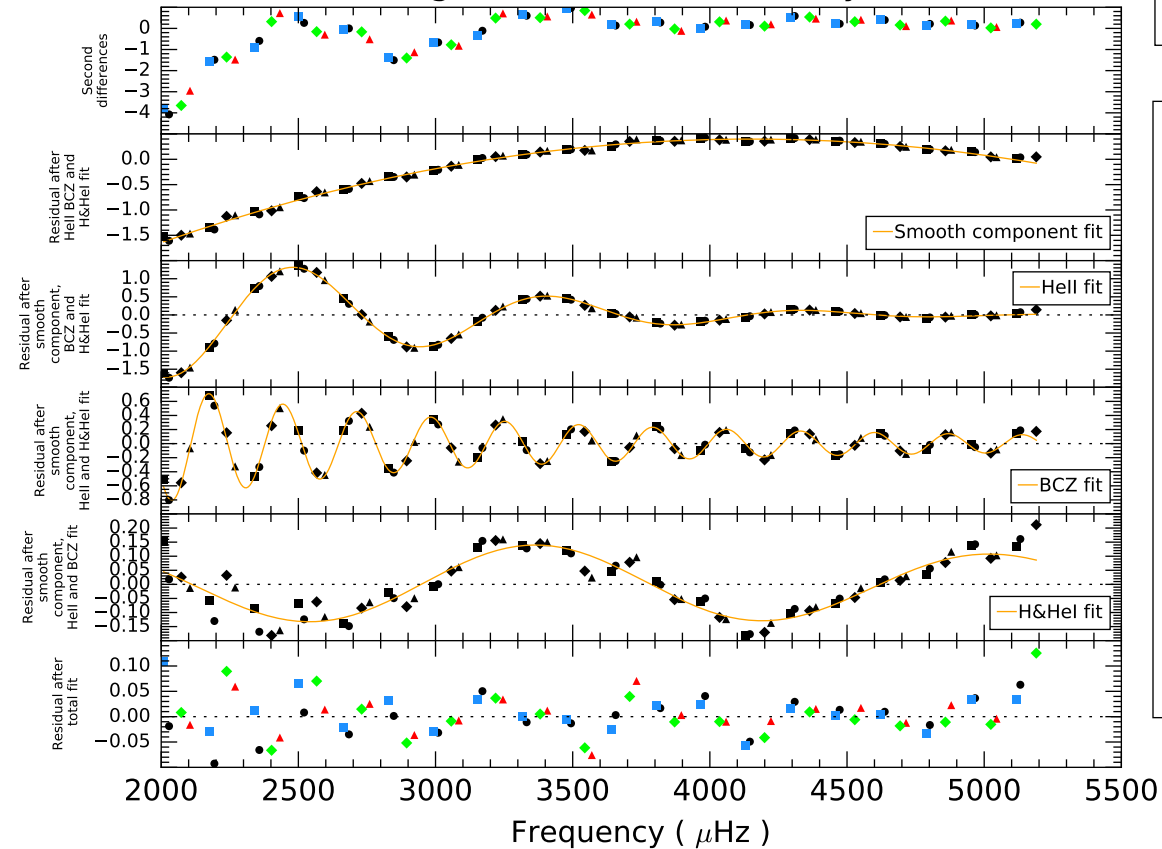
Age after ZAMS: 0.007 Gyr



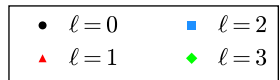
$$\begin{aligned}
 a_0 &= -7.2117 \mu \text{ Hz} \\
 a_1 &= 0.0036675 \\
 a_2 &= -4.4179e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0021502 \\
 c_2 &= 2.2656e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 533.58 \text{ s} \\
 \phi_{HeII} &= 3.6852 \\
 b_2 &= 3.3543e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1855.4 \text{ s} \\
 \phi_{CZ} &= 1.1209 \\
 d_0 &= 7.1055e-05 \\
 d_2 &= 4.743e-08 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 299.15 \text{ s} \\
 \phi_{HI} &= 1.4853
 \end{aligned}$$

profile6

$$\chi^2_{\nu}(\text{dof} = 65) = 0.001925$$



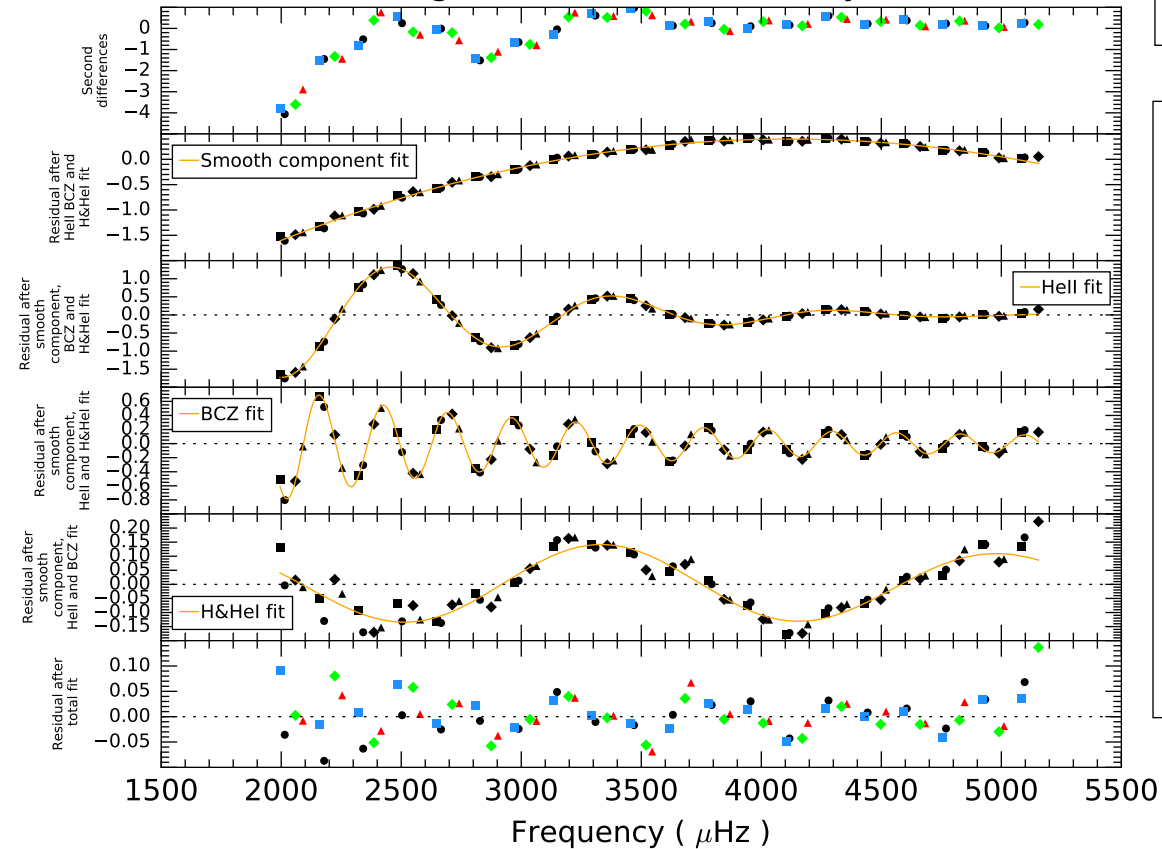
Age after ZAMS: 0.013 Gyr



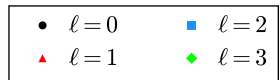
$$\begin{aligned}
 a_0 &= -7.1713 \mu \text{ Hz} \\
 a_1 &= 0.0036804 \\
 a_2 &= -4.4725e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0021725 \\
 c_2 &= 2.3001e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 538.29 \text{ s} \\
 \phi_{HeII} &= 3.6881 \\
 b_2 &= 3.2177e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1872.0 \text{ s} \\
 \phi_{CZ} &= 1.0417 \\
 d_0 &= 7.2466e-05 \\
 d_2 &= 4.8079e-08 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 300.54 \text{ s} \\
 \phi_{HI} &= 1.5447
 \end{aligned}$$

profile7

$$\chi^2_\nu(\text{dof} = 65) = 0.0017526$$



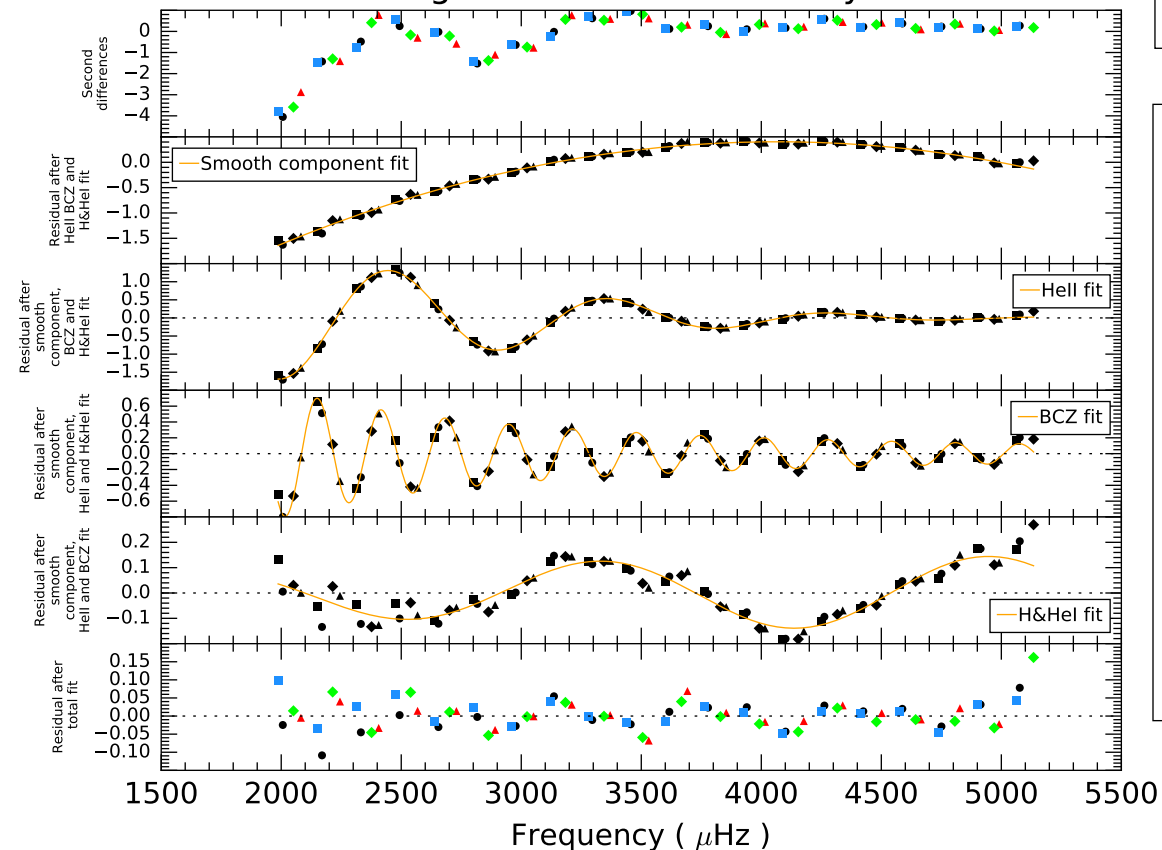
Age after ZAMS: 0.023 Gyr



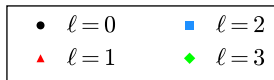
$$\begin{aligned}
 a_0 &= -7.4194 \mu \text{ Hz} \\
 a_1 &= 0.0038482 \\
 a_2 &= -4.7311e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0020923 \\
 c_2 &= 2.2708e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 542.17 \text{ s} \\
 \phi_{HeII} &= 3.6593 \\
 b_2 &= 3.2359e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1880.8 \text{ s} \\
 \phi_{CZ} &= 0.99609 \\
 d_0 &= 4.6815e-05 \\
 d_2 &= 1.9348e-08 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 307.32 \text{ s} \\
 \phi_{HI} &= 1.3221
 \end{aligned}$$

profile8

$$\chi^2_\nu(\text{dof} = 65) = 0.0019654$$



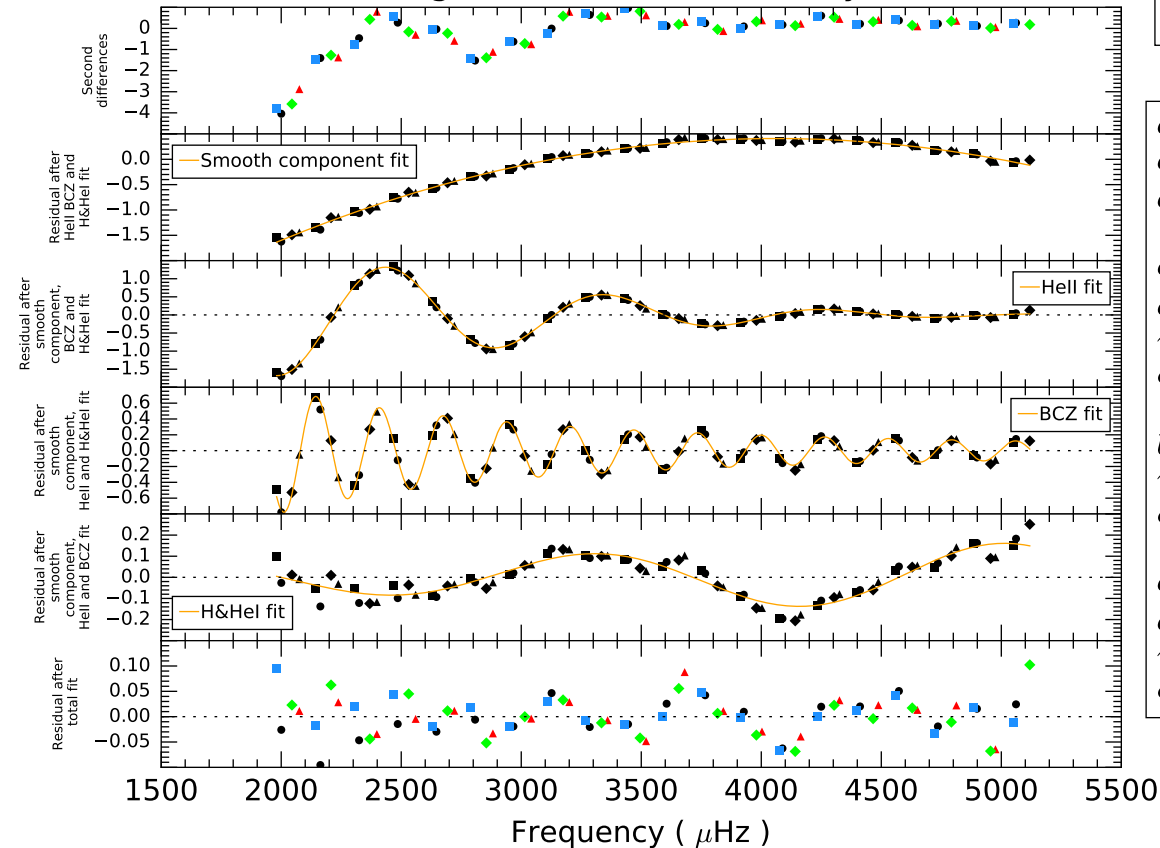
Age after ZAMS: 0.039 Gyr



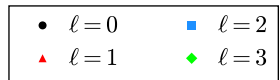
$$\begin{aligned}
 a_0 &= -7.3889 \mu \text{ Hz} \\
 a_1 &= 0.003841 \\
 a_2 &= -4.729e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0020299 \\
 c_2 &= 2.221e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 545.74 \text{ s} \\
 \phi_{HeII} &= 3.6258 \\
 b_2 &= 3.1505e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1887.4 \text{ s} \\
 \phi_{CZ} &= 0.95148 \\
 d_0 &= 3.5439e-05 \\
 d_2 &= 3.86e-09 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 291.46 \text{ s} \\
 \phi_{HI} &= 2.1024
 \end{aligned}$$

profile9

$$\chi^2_\nu(\text{dof} = 65) = 0.0017533$$



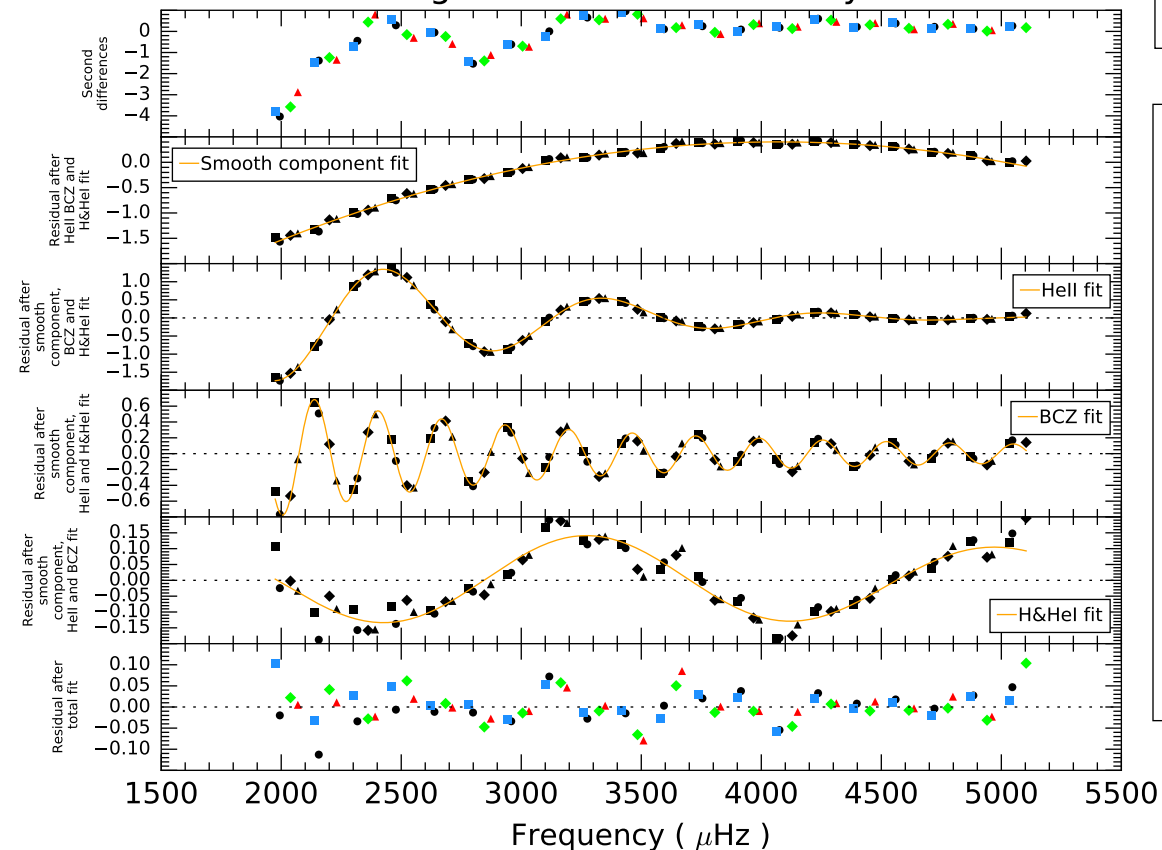
Age after ZAMS: 0.068 Gyr



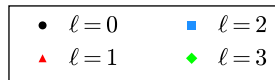
$$\begin{aligned}
 a_0 &= -7.0868 \mu \text{ Hz} \\
 a_1 &= 0.0036796 \\
 a_2 &= -4.5192e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0021623 \\
 c_2 &= 2.3064e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 543.02 \text{ s} \\
 \phi_{HeII} &= 3.7733 \\
 b_2 &= 3.1264e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1889.4 \text{ s} \\
 \phi_{CZ} &= 1.0304 \\
 d_0 &= 7.4436e-05 \\
 d_2 &= 5.0879e-08 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 290.75 \text{ s} \\
 \phi_{HI} &= 2.1775
 \end{aligned}$$

profile10

$$\chi^2_\nu(\text{dof} = 65) = 0.0016992$$



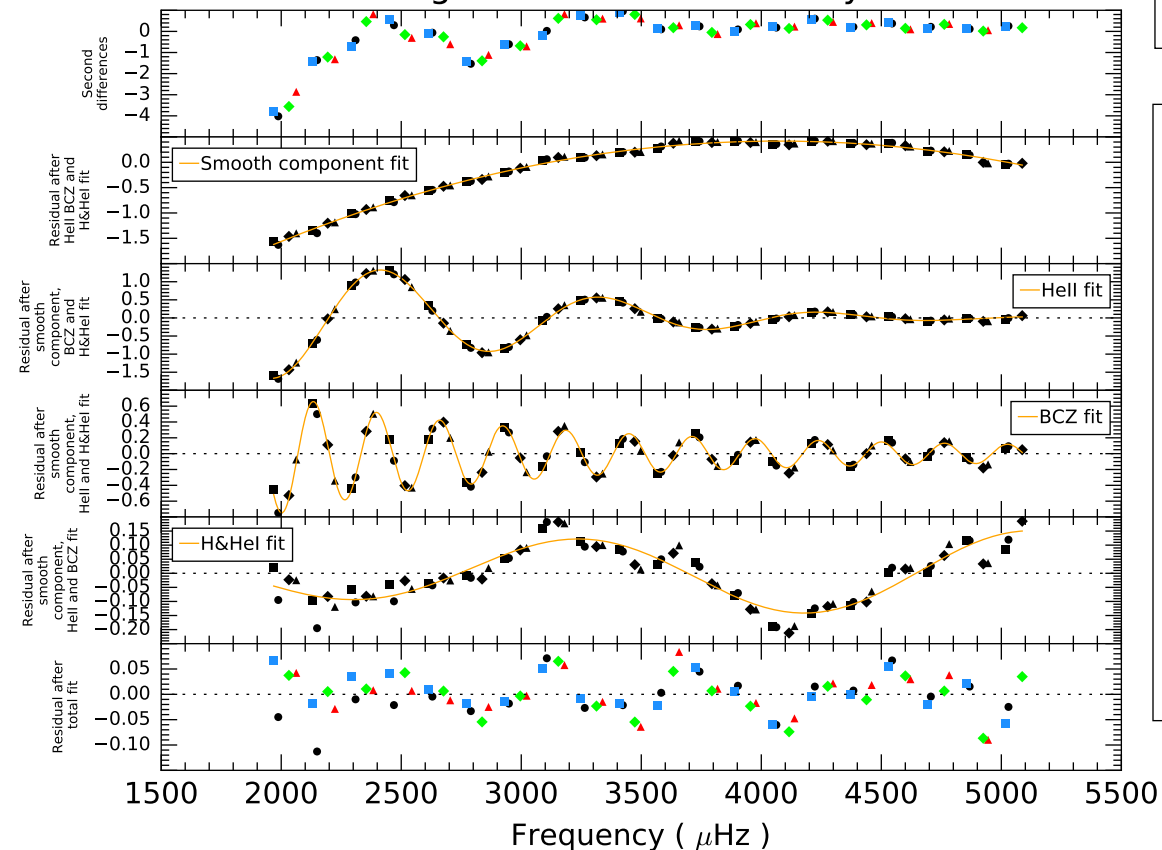
Age after ZAMS: 0.118 Gyr



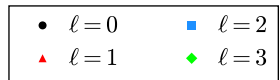
$$\begin{aligned}
 a_0 &= -7.2267 \mu \text{ Hz} \\
 a_1 &= 0.0037547 \\
 a_2 &= -4.6095e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0019838 \\
 c_2 &= 2.1985e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 544.64 \text{ s} \\
 \phi_{HeII} &= 3.814 \\
 b_2 &= 2.9984e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1902.2 \text{ s} \\
 \phi_{CZ} &= 0.79716 \\
 d_0 &= 4.4468e-05 \\
 d_2 &= 1.5626e-08 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 263.0 \text{ s} \\
 \phi_{HI} &= 3.5012
 \end{aligned}$$

profile11

$$\chi^2_{\nu}(\text{dof} = 65) = 0.0019147$$



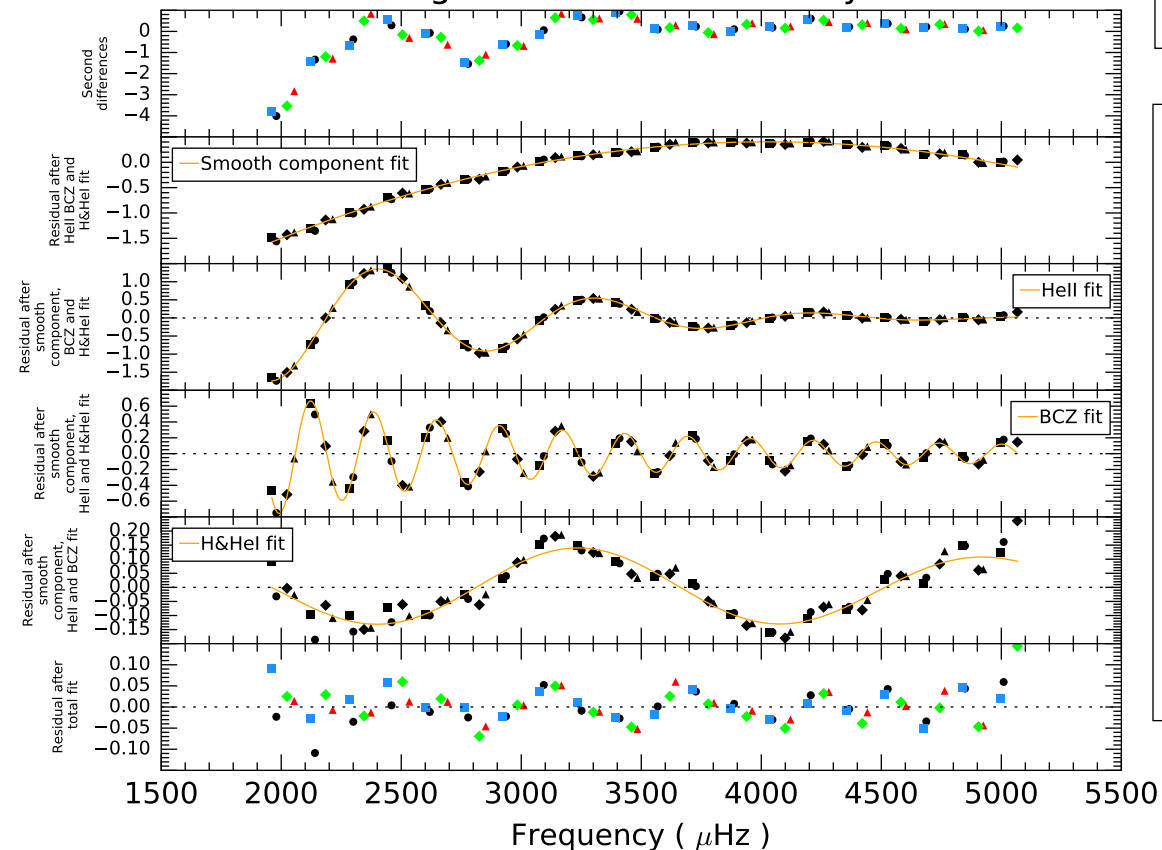
Age after ZAMS: 0.205 Gyr



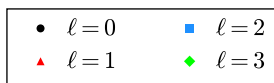
$$\begin{aligned}
 a_0 &= -7.1133 \mu \text{ Hz} \\
 a_1 &= 0.0037348 \\
 a_2 &= -4.6383e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0021968 \\
 c_2 &= 2.351e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 547.52 \text{ s} \\
 \phi_{HeII} &= 3.7969 \\
 b_2 &= 3e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1911.1 \text{ s} \\
 \phi_{CZ} &= 0.82701 \\
 d_0 &= 7.2702e-05 \\
 d_2 &= 4.9439e-08 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 293.51 \text{ s} \\
 \phi_{HI} &= 2.1983
 \end{aligned}$$

profile12

$$\chi^2_\nu(\text{dof} = 65) = 0.0018061$$



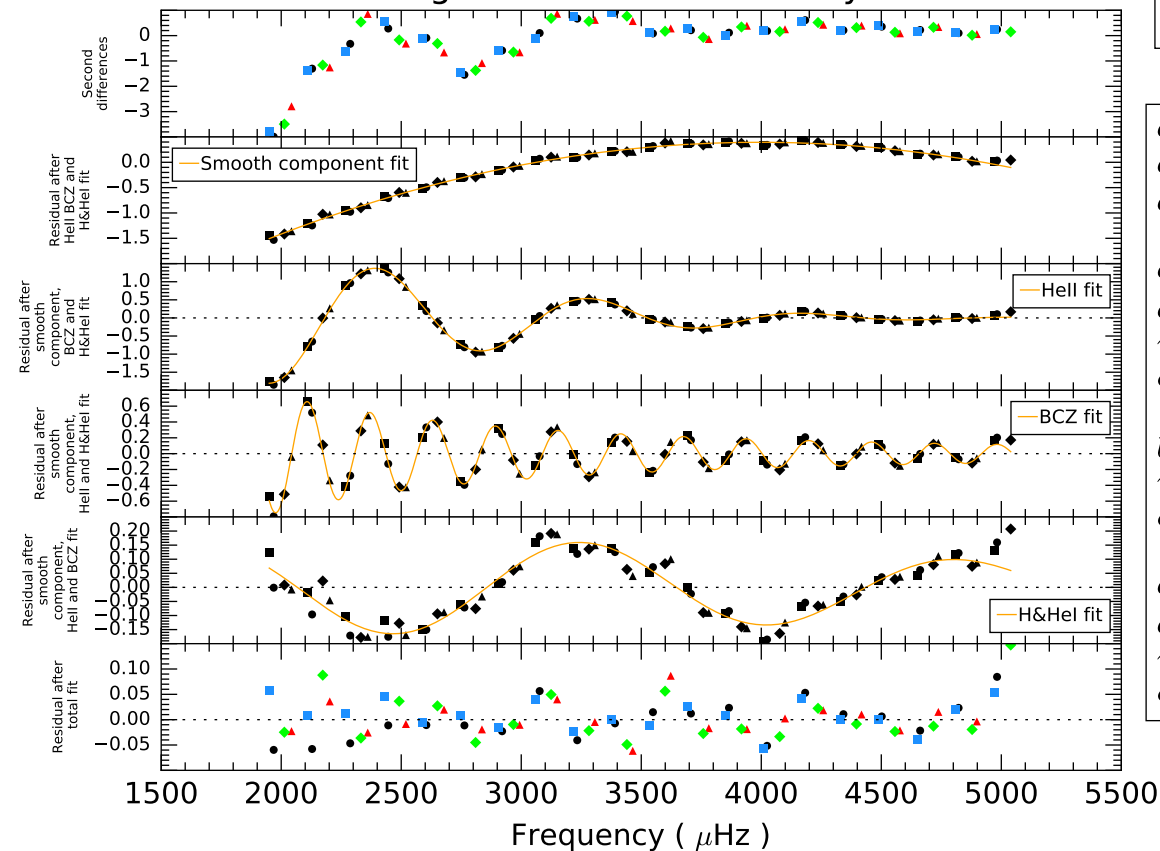
Age after ZAMS: 0.354 Gyr



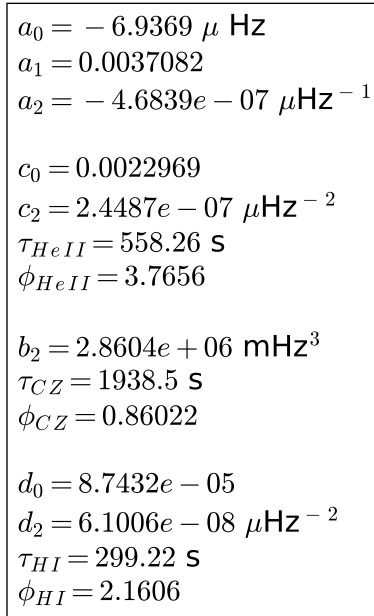
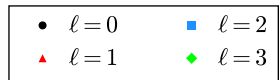
$$\begin{aligned}
 a_0 &= -6.8681 \mu \text{ Hz} \\
 a_1 &= 0.0036379 \\
 a_2 &= -4.555e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0023809 \\
 c_2 &= 2.4802e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 558.0 \text{ s} \\
 \phi_{HeII} &= 3.5535 \\
 b_2 &= 2.9226e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1914.0 \text{ s} \\
 \phi_{CZ} &= 1.1038 \\
 d_0 &= 0.00010165 \\
 d_2 &= 6.8934e-08 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 316.73 \text{ s} \\
 \phi_{HI} &= 1.1973
 \end{aligned}$$

profile13

$$\chi^2_\nu(\text{dof} = 65) = 0.0017581$$

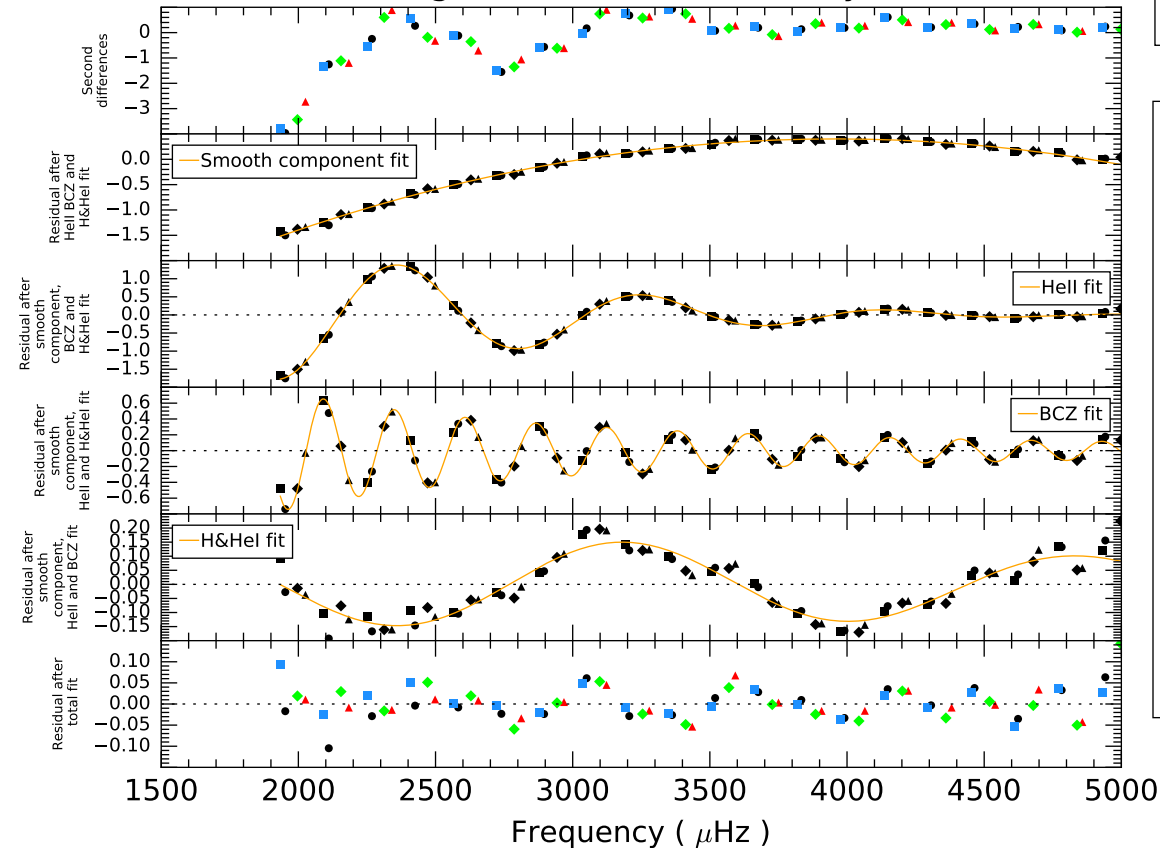


Age after ZAMS: 0.610 Gyr

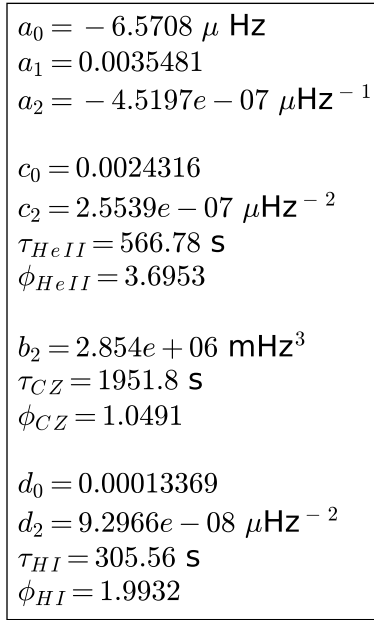
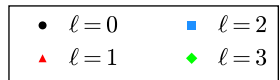


profile14

$\chi^2_{\nu}(\text{dof} = 65) = 0.0017273$

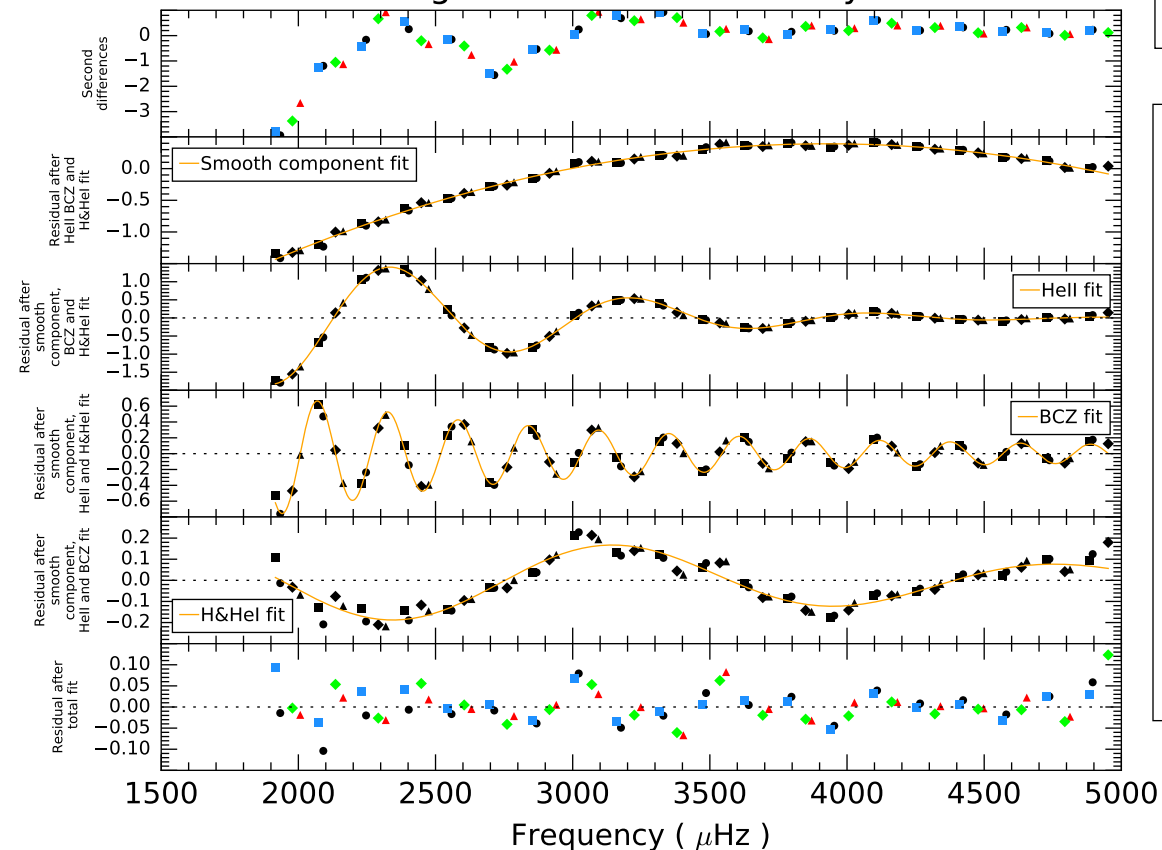


Age after ZAMS: 0.910 Gyr

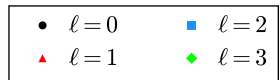


profile15

$$\chi^2_{\nu}(\text{dof} = 65) = 0.0017577$$



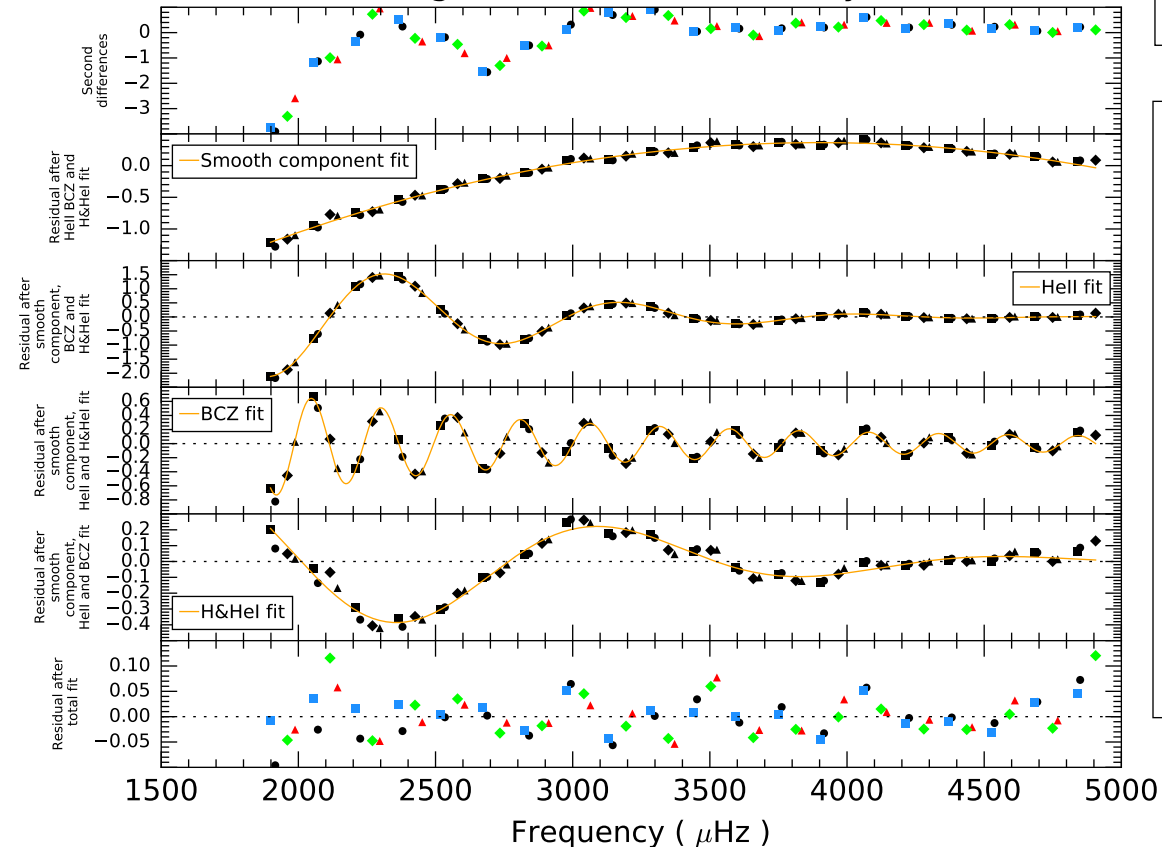
Age after ZAMS: 1.210 Gyr



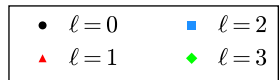
$$\begin{aligned}
 a_0 &= -5.613 \mu \text{ Hz} \\
 a_1 &= 0.0030653 \\
 a_2 &= -3.9301e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0032162 \\
 c_2 &= 2.9439e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 577.26 \text{ s} \\
 \phi_{HeII} &= 3.5128 \\
 b_2 &= 2.696e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1968.5 \text{ s} \\
 \phi_{CZ} &= 1.1641 \\
 d_0 &= 0.00050824 \\
 d_2 &= 2.0245e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 331.02 \text{ s} \\
 \phi_{HI} &= 1.0625
 \end{aligned}$$

profile16

$$\chi^2_\nu(\text{dof} = 65) = 0.0018259$$



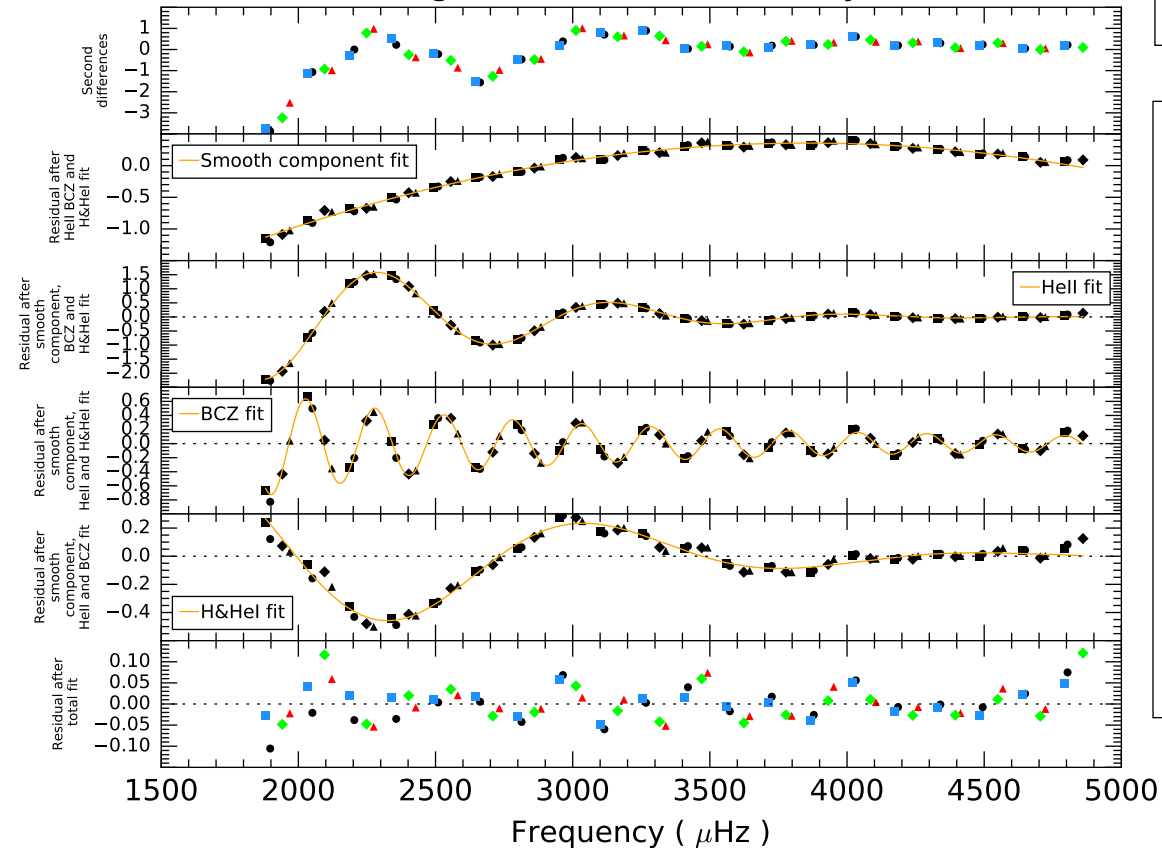
Age after ZAMS: 1.510 Gyr



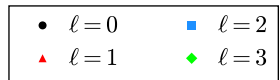
$$\begin{aligned}
 a_0 &= -5.3141 \mu\text{Hz} \\
 a_1 &= 0.002943 \\
 a_2 &= -3.8185e-07 \mu\text{Hz}^{-1} \\
 c_0 &= 0.0035069 \\
 c_2 &= 3.0882e-07 \mu\text{Hz}^{-2} \\
 \tau_{HeII} &= 583.61 \text{ s} \\
 \phi_{HeII} &= 3.523 \\
 b_2 &= 2.6179e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 1988.5 \text{ s} \\
 \phi_{CZ} &= 1.1641 \\
 d_0 &= 0.00072716 \\
 d_2 &= 2.3931e-07 \mu\text{Hz}^{-2} \\
 \tau_{HI} &= 338.09 \text{ s} \\
 \phi_{HI} &= 0.9633
 \end{aligned}$$

profile17

$$\chi^2_\nu(\text{dof} = 65) = 0.0019199$$



Age after ZAMS: 1.810 Gyr



$a_0 = -5.2875 \mu \text{ Hz}$
 $a_1 = 0.002961$
 $a_2 = -3.8835e-07 \mu \text{ Hz}^{-1}$

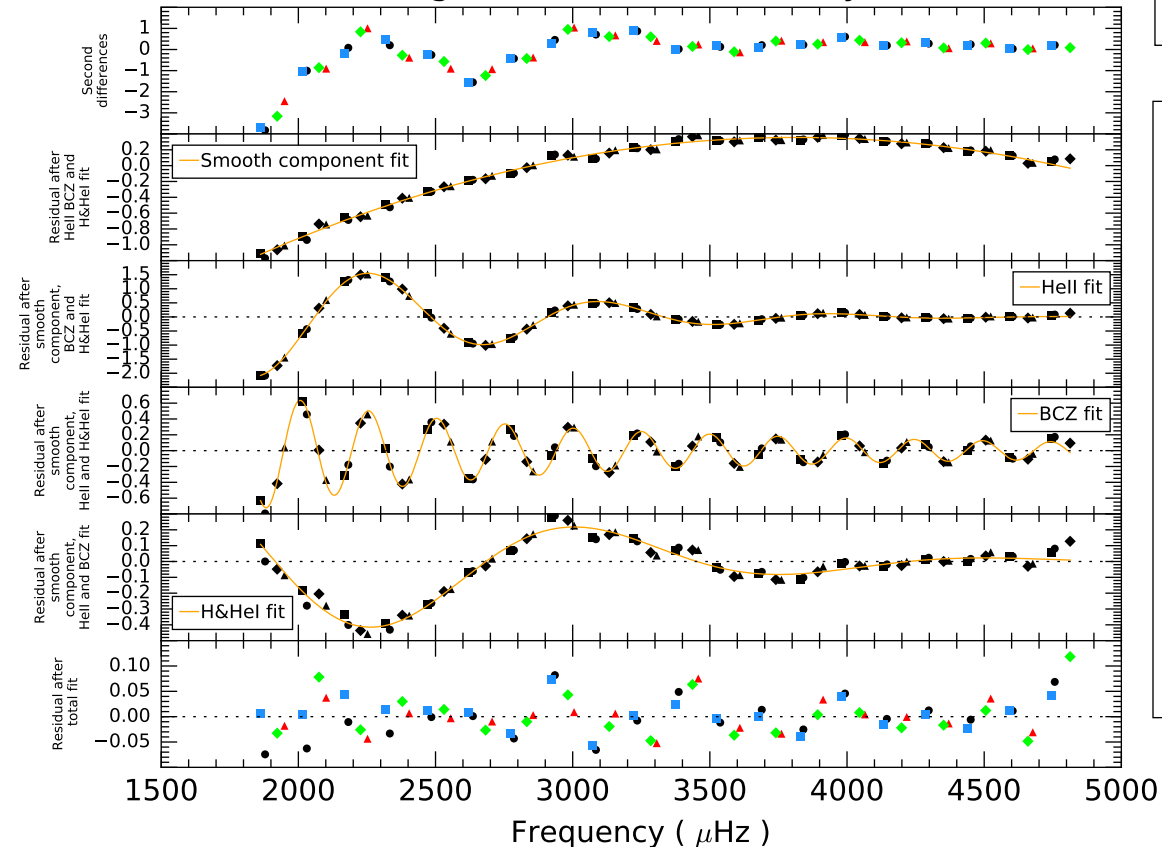
 $c_0 = 0.00318$
 $c_2 = 2.9977e-07 \mu \text{ Hz}^{-2}$
 $\tau_{HeII} = 589.11 \text{ s}$
 $\phi_{HeII} = 3.6158$

 $b_2 = 2.5603e+06 \text{ mHz}^3$
 $\tau_{CZ} = 2011.4 \text{ s}$
 $\phi_{CZ} = 1.0761$

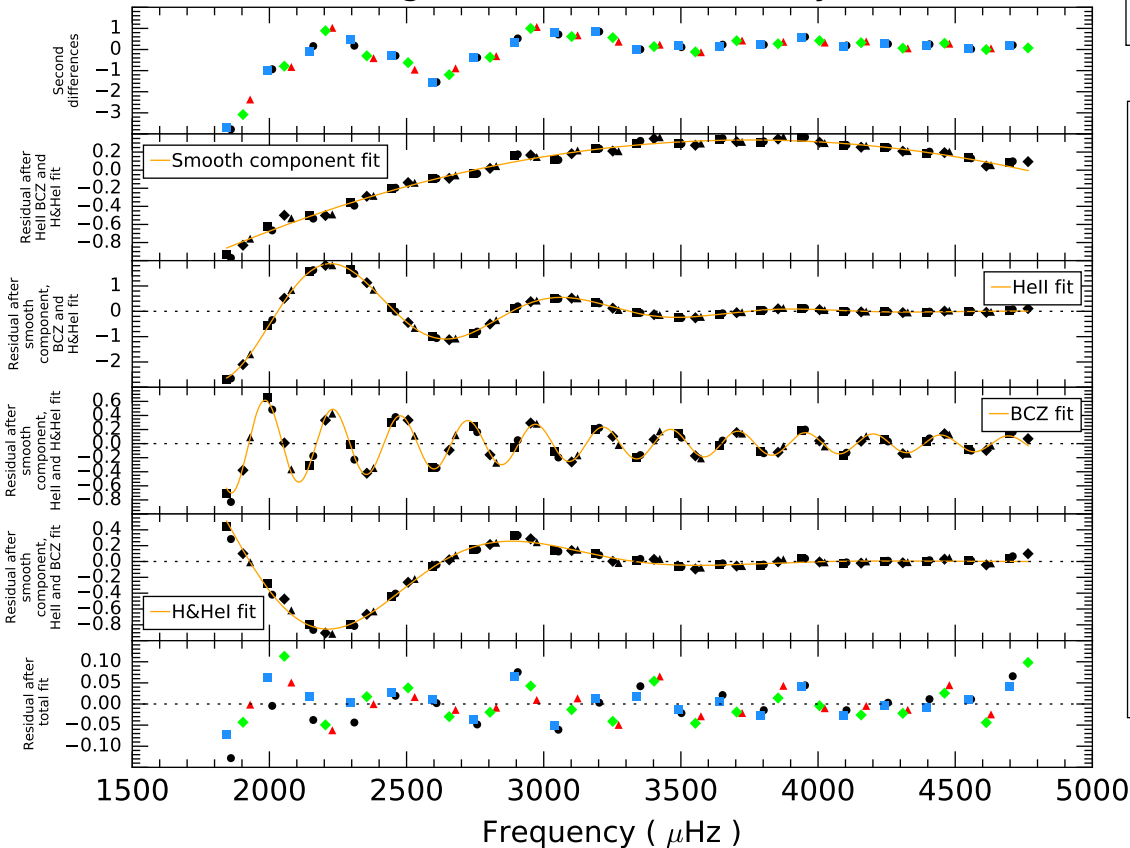
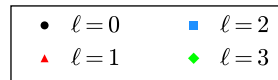
 $d_0 = 0.00060683$
 $d_2 = 2.315e-07 \mu \text{ Hz}^{-2}$
 $\tau_{HI} = 325.25 \text{ s}$
 $\phi_{HI} = 1.5977$

profile18

$\chi^2_\nu(\text{dof} = 65) = 0.0016597$



Age after ZAMS: 2.110 Gyr



$$a_0 = -4.2881 \mu\text{Hz}$$

$$a_1 = 0.0024644$$

$$a_2 = -3.2851e-07 \mu\text{Hz}^{-1}$$

$$c_0 = 0.0046985$$

$$c_2 = 3.4454e-07 \mu\text{Hz}^{-2}$$

$$\tau_{\text{HeII}} = 586.3 \text{ s}$$

$$\phi_{\text{HeII}} = 3.8925$$

$$b_2 = 2.4312e+06 \text{ mHz}^3$$

$$\tau_{\text{CZ}} = 2031.2 \text{ s}$$

$$\phi_{\text{CZ}} = 1.152$$

$$d_0 = 0.0030584$$

$$d_2 = 4.1356e-07 \mu\text{Hz}^{-2}$$

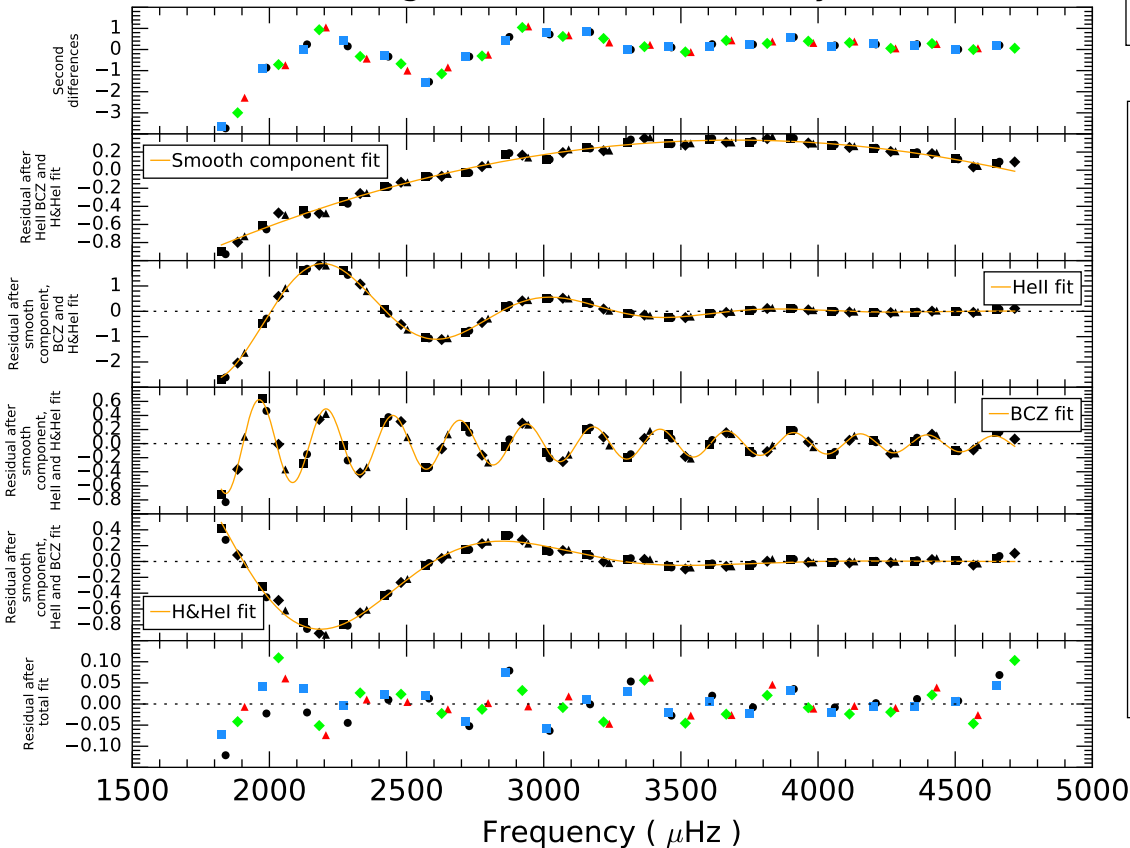
$$\tau_{\text{HI}} = 356.5 \text{ s}$$

$$\phi_{\text{HI}} = 0.78623$$

profile19

$$\chi^2_{\nu}(\text{dof} = 65) = 0.0019846$$

Age after ZAMS: 2.410 Gyr



- \bullet $\ell = 0$
- \blacktriangle $\ell = 1$
- \blacksquare $\ell = 2$
- \blacklozenge $\ell = 3$

$$a_0 = -4.1881 \mu \text{ Hz}$$

$$a_1 = 0.0024459$$

$$a_2 = -3.3085e-07 \mu \text{ Hz}^{-1}$$

$$c_0 = 0.0047229$$

$$c_2 = 3.5169e-07 \mu \text{ Hz}^{-2}$$

$$\tau_{\text{He II}} = 595.66 \text{ s}$$

$$\phi_{\text{He II}} = 3.8454$$

$$b_2 = 2.4083e+06 \text{ mHz}^3$$

$$\tau_{\text{CZ}} = 2054.1 \text{ s}$$

$$\phi_{\text{CZ}} = 1.1321$$

$$d_0 = 0.0031123$$

$$d_2 = 4.2454e-07 \mu \text{ Hz}^{-2}$$

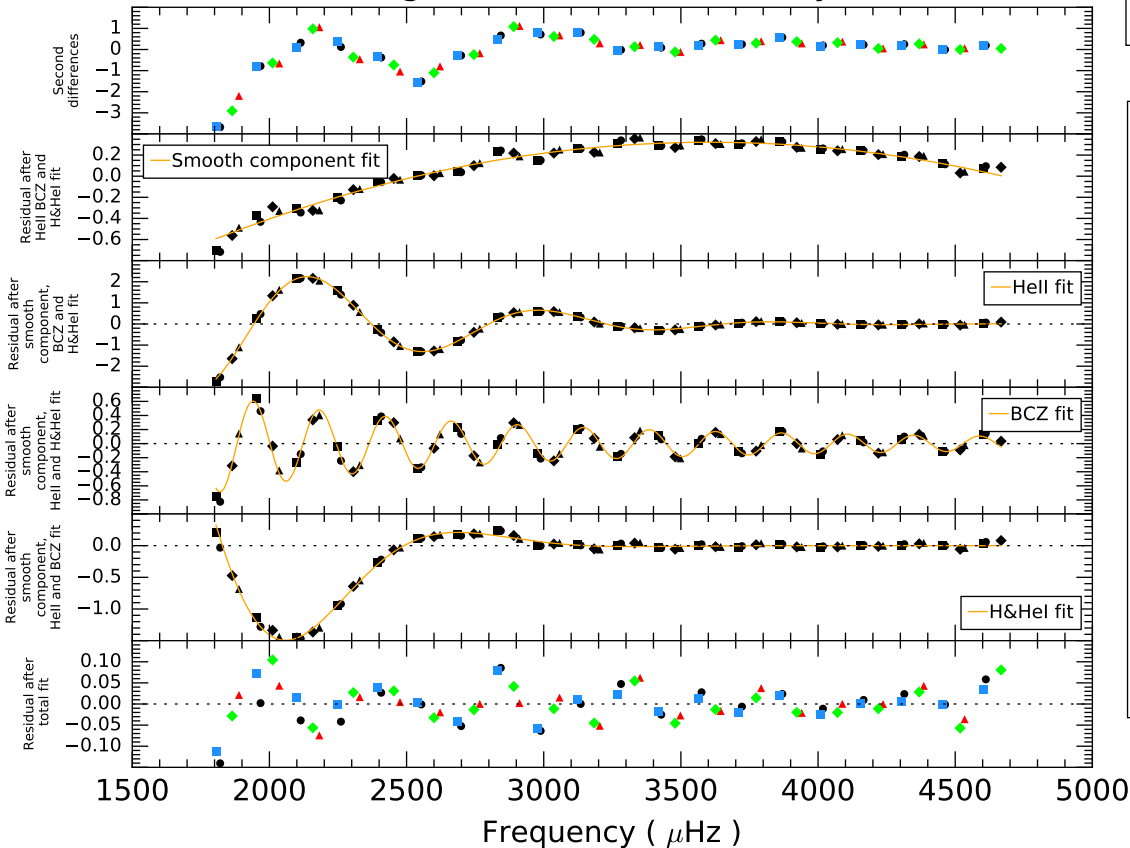
$$\tau_{\text{HI}} = 361.2 \text{ s}$$

$$\phi_{\text{HI}} = 0.77738$$

profile20

$$\chi^2_{\nu}(\text{dof} = 65) = 0.0020025$$

Age after ZAMS: 2.710 Gyr



\bullet $\ell = 0$ \blacksquare $\ell = 2$
 \blacktriangle $\ell = 1$ \blacklozenge $\ell = 3$

$a_0 = -3.3432 \mu \text{ Hz}$
 $a_1 = 0.0020328$
 $a_2 = -2.8188e-07 \mu \text{ Hz}^{-1}$

 $c_0 = 0.0054755$
 $c_2 = 3.5922e-07 \mu \text{ Hz}^{-2}$
 $\tau_{HeII} = 585.0 \text{ s}$
 $\phi_{HeII} = 4.5605$

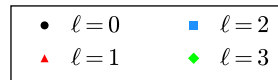
 $b_2 = 2.2727e+06 \text{ mHz}^3$
 $\tau_{CZ} = 2077.4 \text{ s}$
 $\phi_{CZ} = 1.1455$

 $d_0 = 0.01684$
 $d_2 = 7.138e-07 \mu \text{ Hz}^{-2}$
 $\tau_{HI} = 377.84 \text{ s}$
 $\phi_{HI} = 0.7429$

profile21

$\chi^2_{\nu}(\text{dof} = 65) = 0.0021713$

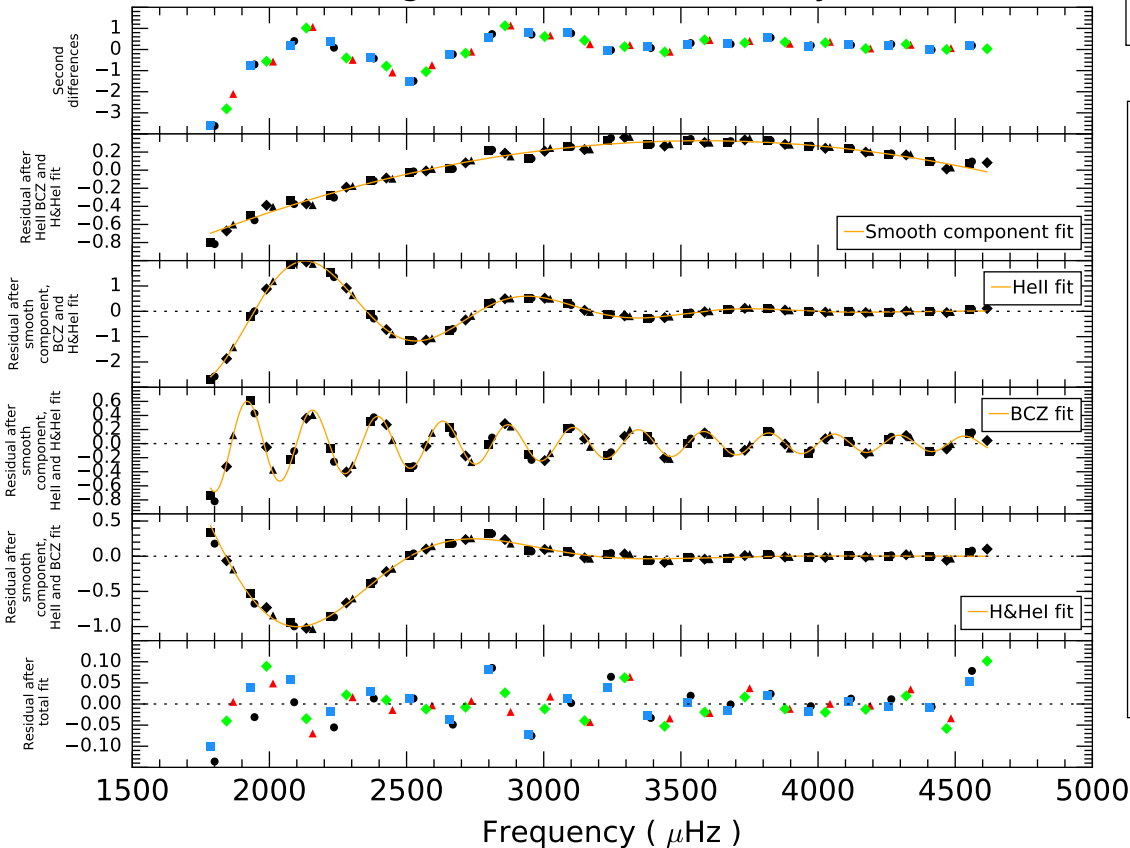
Age after ZAMS: 3.010 Gyr



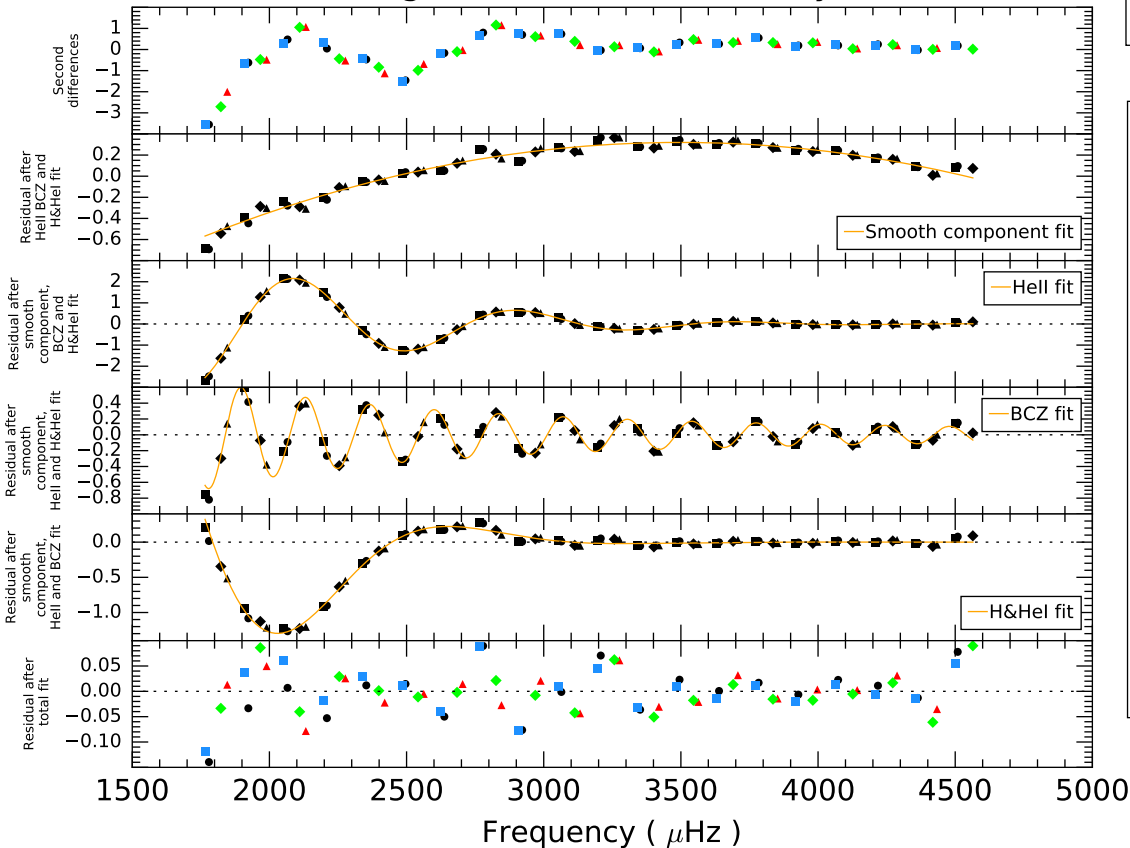
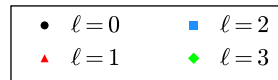
$a_0 = -3.7529 \mu \text{ Hz}$
 $a_1 = 0.0022804$
 $a_2 = -3.1878e-07 \mu \text{ Hz}^{-1}$
 $c_0 = 0.004983$
 $c_2 = 3.6718e-07 \mu \text{ Hz}^{-2}$
 $\tau_{\text{He II}} = 609.56 \text{ s}$
 $\phi_{\text{He II}} = 3.9581$
 $b_2 = 2.2165e+06 \text{ mHz}^3$
 $\tau_{\text{CZ}} = 2104.0 \text{ s}$
 $\phi_{\text{CZ}} = 1.0595$
 $d_0 = 0.004915$
 $d_2 = 5.1386e-07 \mu \text{ Hz}^{-2}$
 $\tau_{\text{HI}} = 371.74 \text{ s}$
 $\phi_{\text{HI}} = 0.82586$

profile22

$\chi^2_{\nu}(\text{dof} = 65) = 0.002204$



Age after ZAMS: 3.310 Gyr



$$a_0 = -3.2961 \mu \text{ Hz}$$

$$a_1 = 0.0020677$$

$$a_2 = -2.9557e-07 \mu \text{ Hz}^{-1}$$

$$c_0 = 0.0053643$$

$$c_2 = 3.756e-07 \mu \text{ Hz}^{-2}$$

$$\tau_{HeII} = 610.33 \text{ s}$$

$$\phi_{HeII} = 4.265$$

$$b_2 = 2.152e+06 \text{ mHz}^3$$

$$\tau_{CZ} = 2130.1 \text{ s}$$

$$\phi_{CZ} = 1.0485$$

$$d_0 = 0.010984$$

$$d_2 = 6.6693e-07 \mu \text{ Hz}^{-2}$$

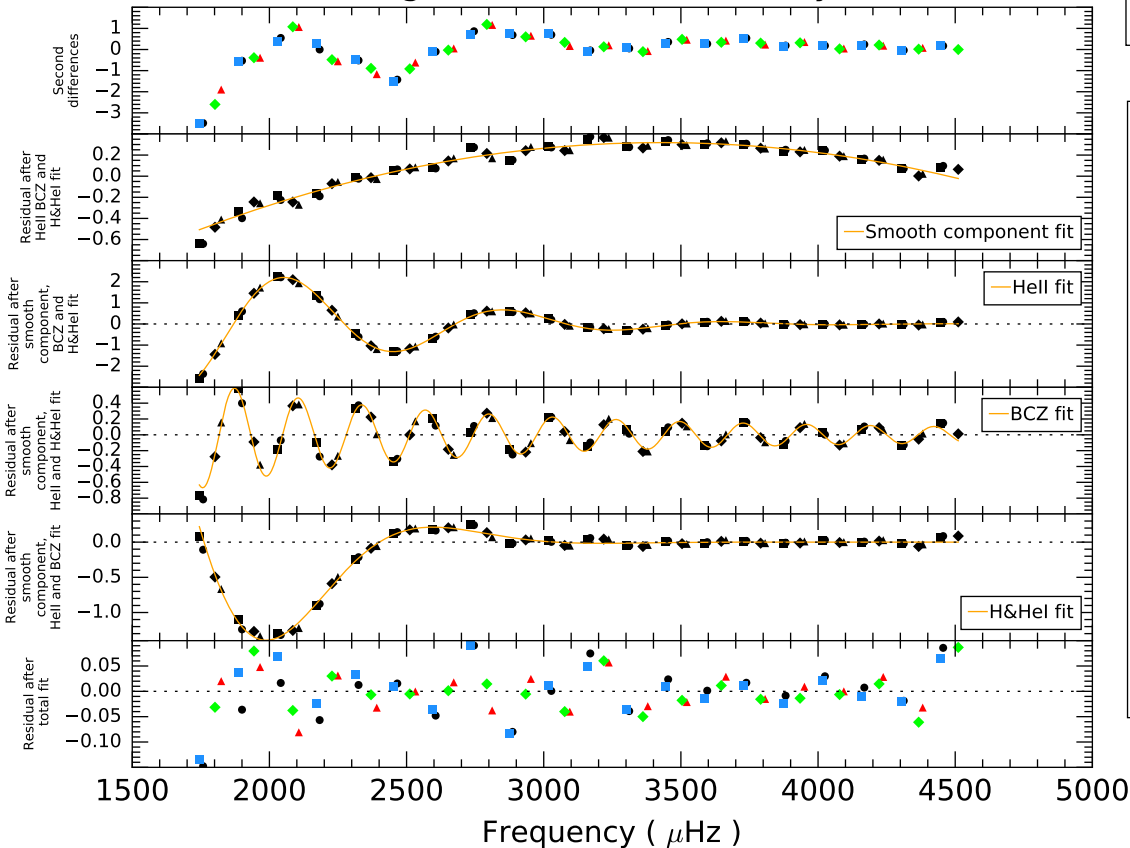
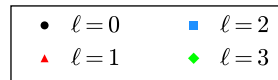
$$\tau_{HI} = 382.82 \text{ s}$$

$$\phi_{HI} = 0.7981$$

profile23

$$\chi^2_{\nu}(\text{dof} = 65) = 0.0023398$$

Age after ZAMS: 3.610 Gyr



$$a_0 = -3.1026 \mu\text{Hz}$$

$$a_1 = 0.0019953$$

$$a_2 = -2.9093e-07 \mu\text{Hz}^{-1}$$

$$c_0 = 0.0054829$$

$$c_2 = 3.8453e-07 \mu\text{Hz}^{-2}$$

$$\tau_{HeII} = 617.98 \text{ s}$$

$$\phi_{HeII} = 4.3396$$

$$b_2 = 2.0656e+06 \text{ mHz}^3$$

$$\tau_{CZ} = 2158.1 \text{ s}$$

$$\phi_{CZ} = 1.0128$$

$$d_0 = 0.014371$$

$$d_2 = 7.367e-07 \mu\text{Hz}^{-2}$$

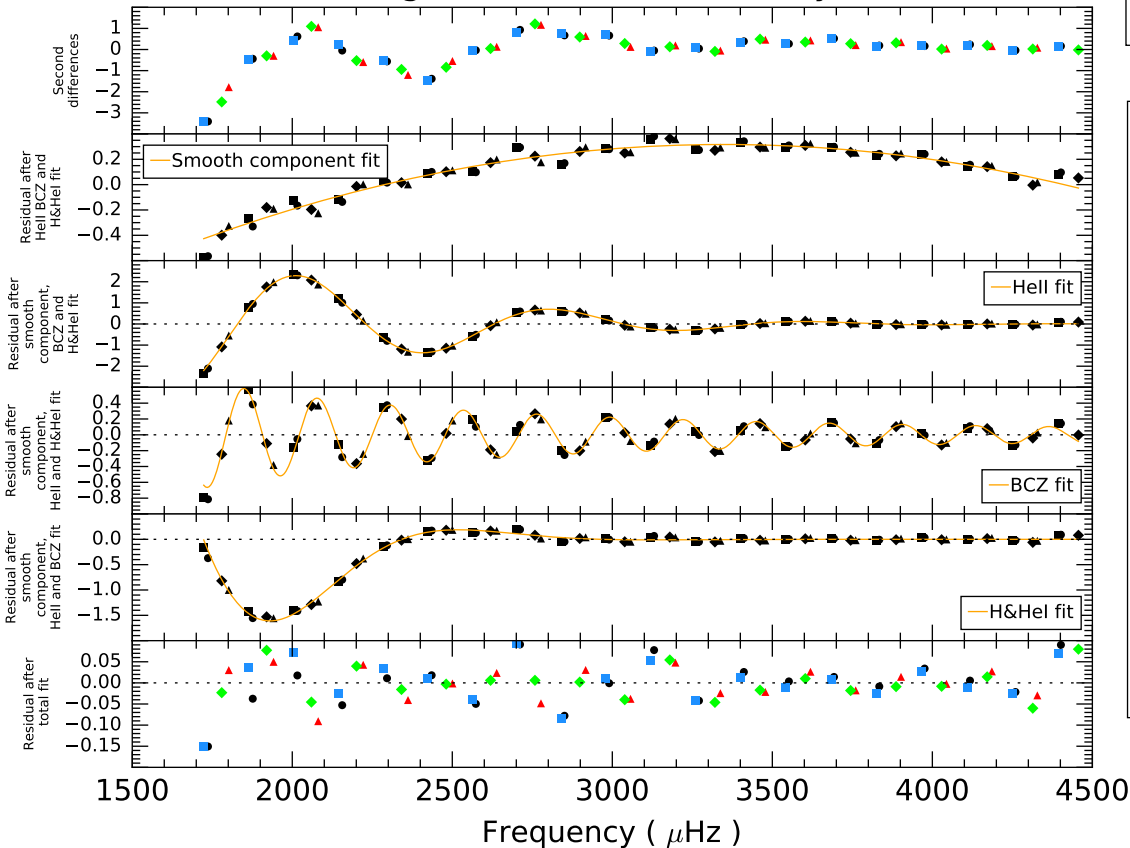
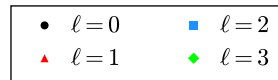
$$\tau_{HI} = 391.13 \text{ s}$$

$$\phi_{HI} = 0.76689$$

profile24

$$\chi^2_\nu(\text{dof} = 65) = 0.0025495$$

Age after ZAMS: 3.910 Gyr



$$\begin{aligned}
 a_0 &= -2.8375 \mu \text{ Hz} \\
 a_1 &= 0.0018835 \\
 a_2 &= -2.8112e-07 \mu \text{ Hz}^{-1}
 \end{aligned}$$

$$\begin{aligned}
 c_0 &= 0.0056552 \\
 c_2 &= 3.9401e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 622.57 \text{ s} \\
 \phi_{HeII} &= 4.5496
 \end{aligned}$$

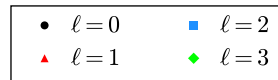
$$\begin{aligned}
 b_2 &= 2.0011e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 2187.3 \text{ s} \\
 \phi_{CZ} &= 0.99123
 \end{aligned}$$

$$\begin{aligned}
 d_0 &= 0.025423 \\
 d_2 &= 8.7944e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 403.76 \text{ s} \\
 \phi_{HI} &= 0.68455
 \end{aligned}$$

profile25

$$\chi^2_{\nu}(\text{dof} = 65) = 0.0027356$$

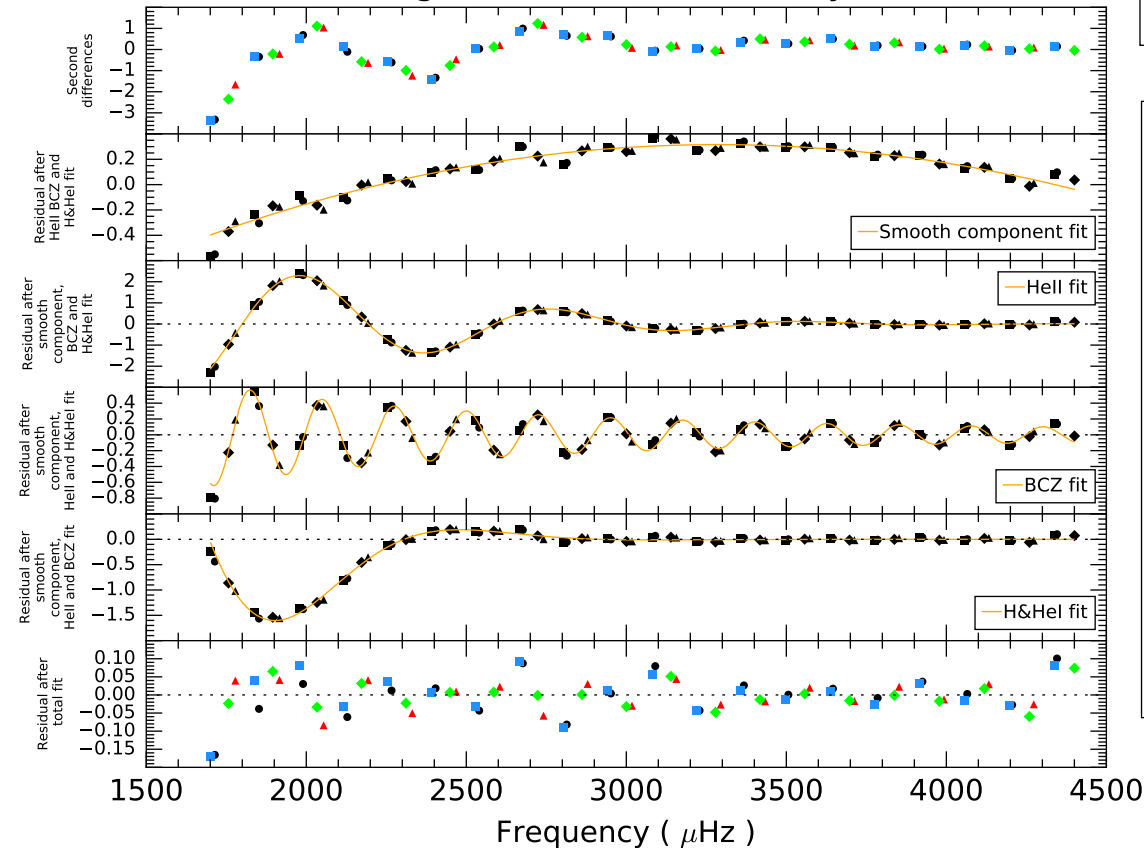
Age after ZAMS: 4.210 Gyr



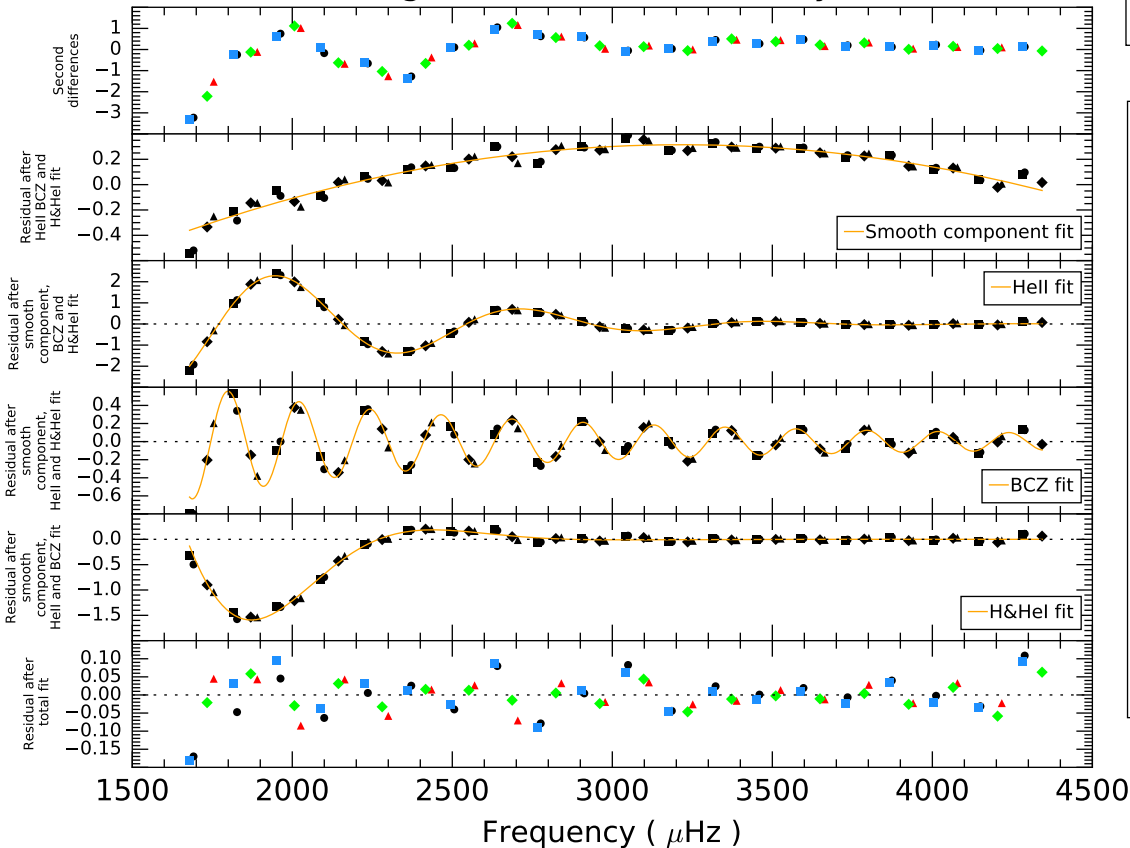
$$\begin{aligned}
 a_0 &= -2.7487 \mu \text{ Hz} \\
 a_1 &= 0.001866 \\
 a_2 &= -2.8401e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0056902 \\
 c_2 &= 4.0412e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 634.01 \text{ s} \\
 \phi_{HeII} &= 4.5158 \\
 b_2 &= 1.8828e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 2219.9 \text{ s} \\
 \phi_{CZ} &= 0.91331 \\
 d_0 &= 0.025748 \\
 d_2 &= 9.0712e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 411.25 \text{ s} \\
 \phi_{HI} &= 0.65432
 \end{aligned}$$

profile26

$$\chi^2_\nu (\text{dof} = 65) = 0.0029731$$



Age after ZAMS: 4.510 Gyr



\bullet $\ell = 0$ \blacksquare $\ell = 2$
 \blacktriangle $\ell = 1$ \blacklozenge $\ell = 3$

$$a_0 = -2.6395 \mu \text{ Hz}$$

$$a_1 = 0.0018365$$

$$a_2 = -2.8539e-07 \mu\text{Hz}^{-1}$$

$$c_0 = 0.0057092$$

$$c_2 = 4.149e-07 \mu\text{Hz}^{-2}$$

$$\tau_{HeII} = 646.25 \text{ s}$$

$$\phi_{HeII} = 4.4761$$

$$b_2 = 1.8054e+06 \text{ mHz}^3$$

$$\tau_{CZ} = 2254.7 \text{ s}$$

$$\phi_{CZ} = 0.82697$$

$$d_0 = 0.026093$$

$$d_2 = 9.3716e-07 \mu\text{Hz}^{-2}$$

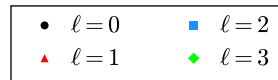
$$\tau_{HI} = 417.73 \text{ s}$$

$$\phi_{HI} = 0.65382$$

profile27

$$\chi^2_\nu(\text{dof} = 65) = 0.0031695$$

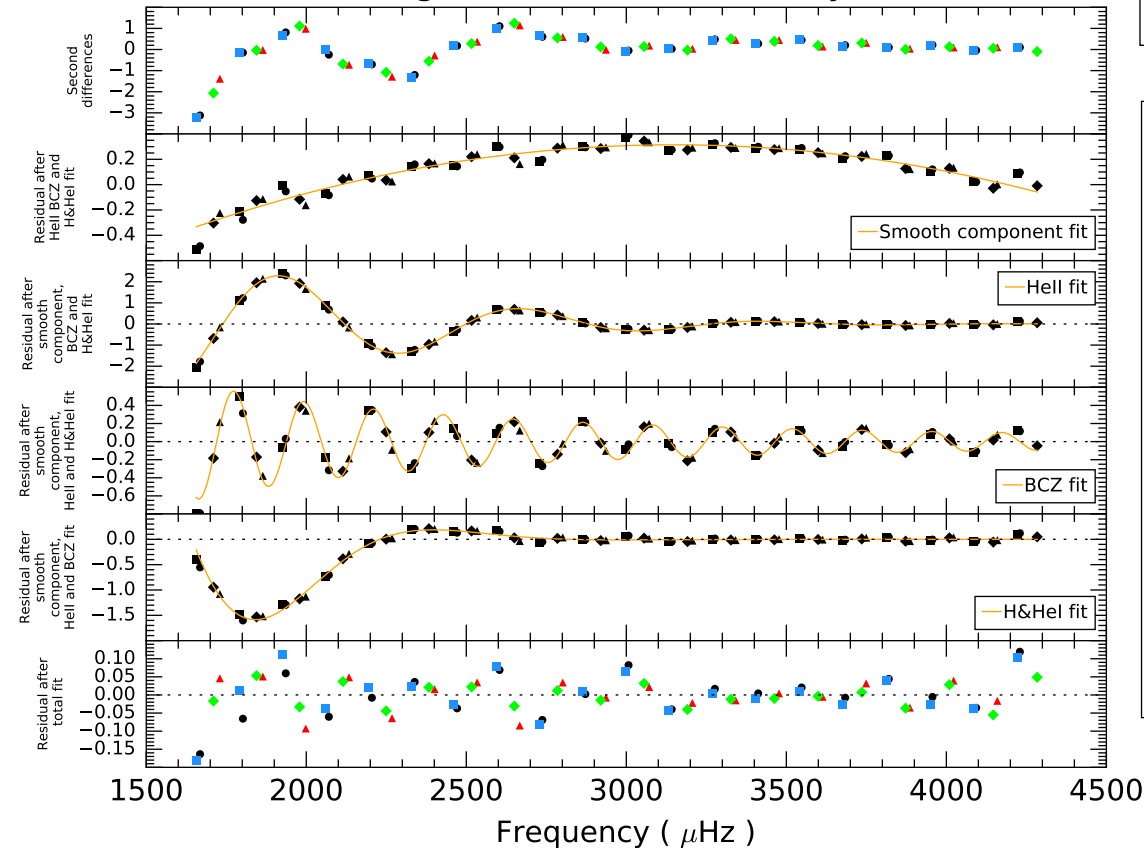
Age after ZAMS: 4.810 Gyr



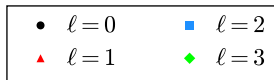
$$\begin{aligned}
 a_0 &= -2.5625 \mu \text{ Hz} \\
 a_1 &= 0.0018268 \\
 a_2 &= -2.8997e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0057353 \\
 c_2 &= 4.2641e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 658.44 \text{ s} \\
 \phi_{HeII} &= 4.4606 \\
 b_2 &= 1.7547e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 2292.3 \text{ s} \\
 \phi_{CZ} &= 0.72171 \\
 d_0 &= 0.026455 \\
 d_2 &= 9.7005e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 426.72 \text{ s} \\
 \phi_{HI} &= 0.61211
 \end{aligned}$$

profile28

$$\chi^2_\nu(\text{dof} = 65) = 0.0033222$$



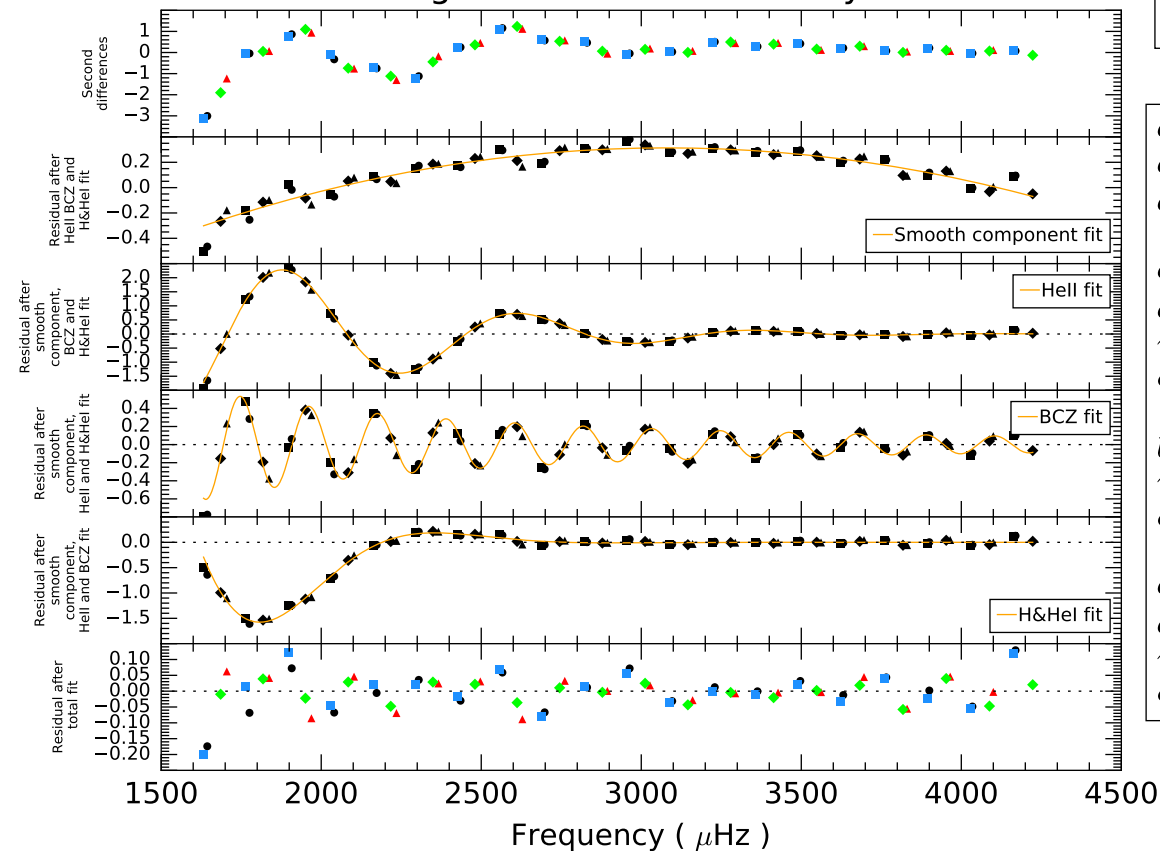
Age after ZAMS: 5.110 Gyr



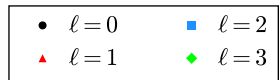
$$\begin{aligned}
 a_0 &= -2.4697 \mu \text{ Hz} \\
 a_1 &= 0.0018074 \\
 a_2 &= -2.934e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0057525 \\
 c_2 &= 4.3874e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 671.45 \text{ s} \\
 \phi_{HeII} &= 4.4424 \\
 b_2 &= 1.6295e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 2333.7 \text{ s} \\
 \phi_{CZ} &= 0.57677 \\
 d_0 &= 0.026835 \\
 d_2 &= 1.0059e-06 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 434.63 \text{ s} \\
 \phi_{HI} &= 0.60678
 \end{aligned}$$

profile29

$$\chi^2_\nu(\text{dof} = 65) = 0.0036234$$



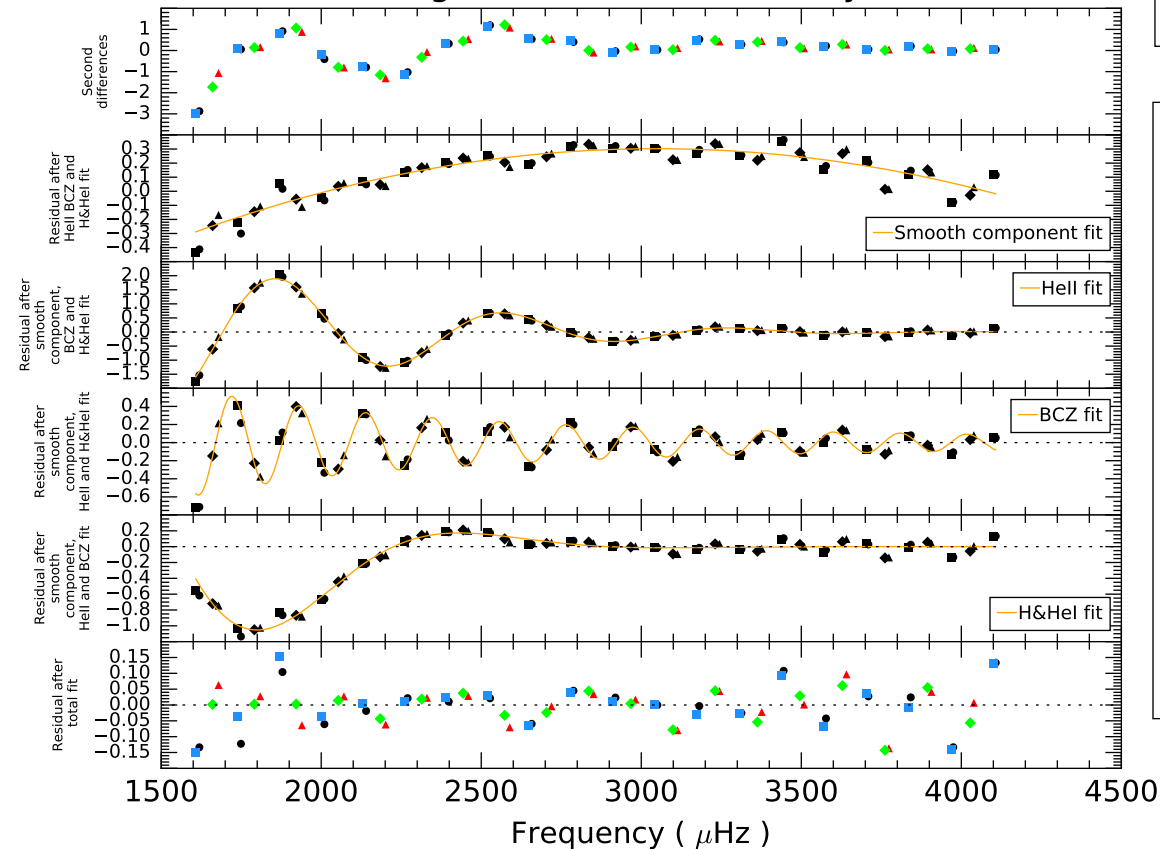
Age after ZAMS: 5.410 Gyr



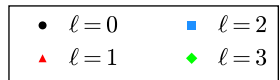
$$\begin{aligned}
 a_0 &= -2.3459 \mu \text{ Hz} \\
 a_1 &= 0.0017383 \\
 a_2 &= -2.8523e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0044828 \\
 c_2 &= 4.2747e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 700.29 \text{ s} \\
 \phi_{HeII} &= 3.9649 \\
 b_2 &= 1.5164e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 2395.5 \text{ s} \\
 \phi_{CZ} &= 2.6979e-12 \\
 d_0 &= 0.0072766 \\
 d_2 &= 7.4916e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 373.5 \text{ s} \\
 \phi_{HI} &= 2.1215
 \end{aligned}$$

profile30

$$\chi^2_\nu(\text{dof} = 64) = 0.0050718$$



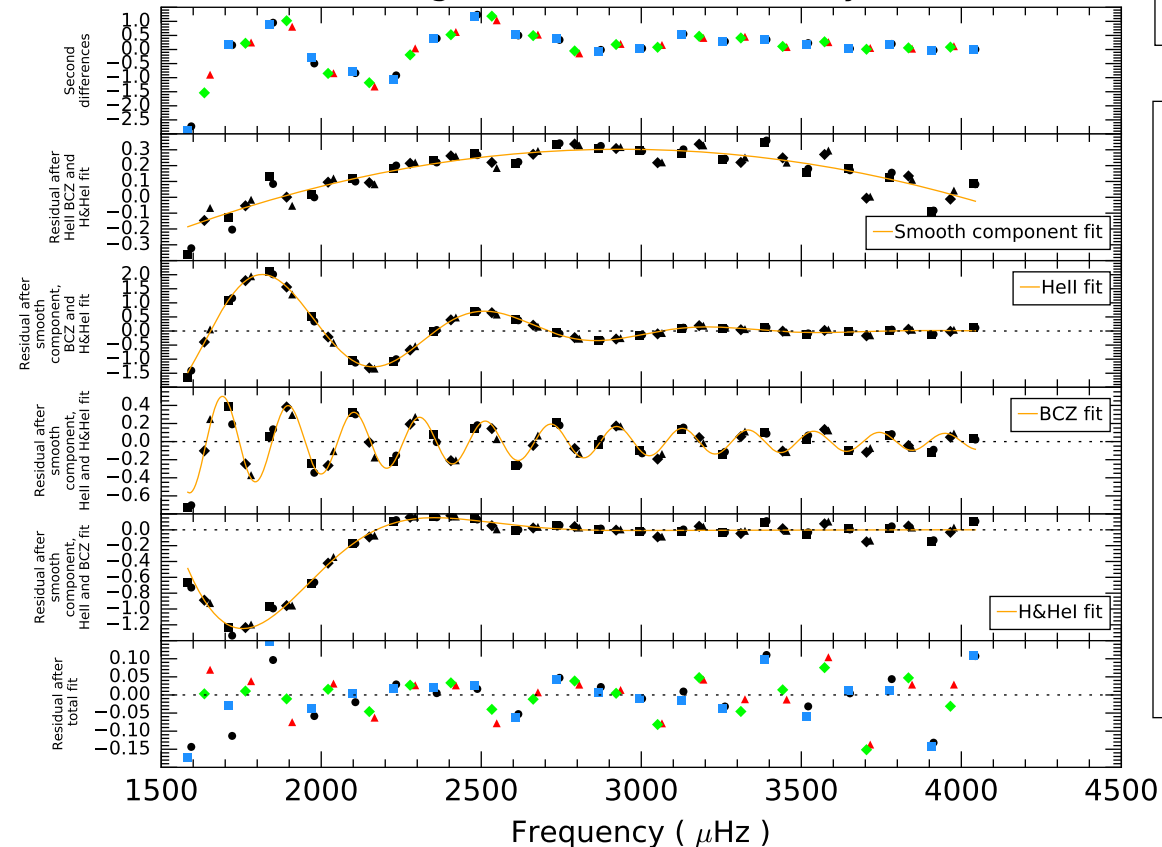
Age after ZAMS: 5.710 Gyr



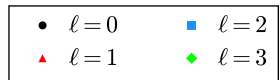
$a_0 = -2.0022 \mu \text{ Hz}$
 $a_1 = 0.0015706$
 $a_2 = -2.6748e-07 \mu \text{ Hz}^{-1}$
 $c_0 = 0.0049458$
 $c_2 = 4.5199e-07 \mu \text{ Hz}^{-2}$
 $\tau_{HeII} = 710.39 \text{ s}$
 $\phi_{HeII} = 4.0908$
 $b_2 = 1.4332e+06 \text{ mHz}^3$
 $\tau_{CZ} = 2437.1 \text{ s}$
 $\phi_{CZ} = 4.5671e-31$
 $d_0 = 0.013846$
 $d_2 = 9.229e-07 \mu \text{ Hz}^{-2}$
 $\tau_{HI} = 393.91 \text{ s}$
 $\phi_{HI} = 1.8151$

profile31

$\chi^2_\nu(\text{dof} = 64) = 0.0050386$



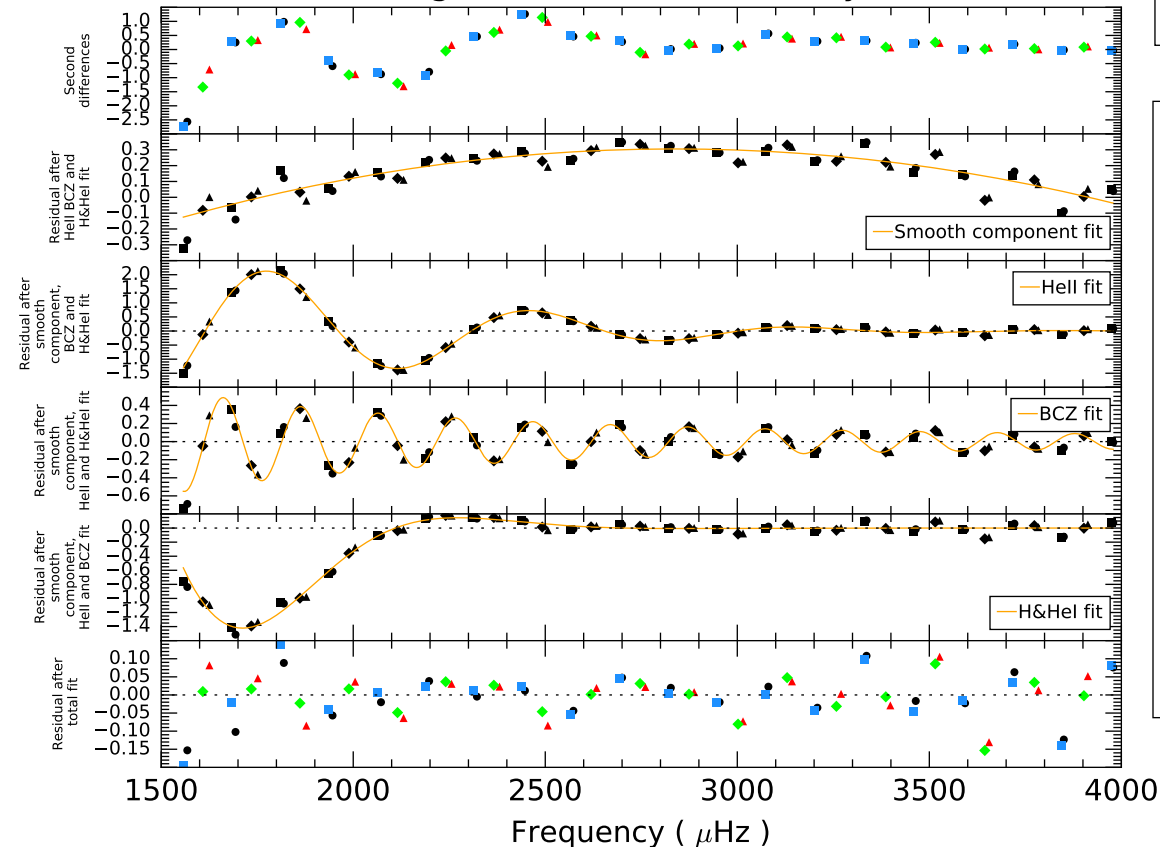
Age after ZAMS: 6.010 Gyr



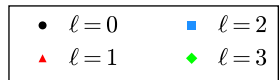
$$\begin{aligned}
 a_0 &= -1.8108 \mu \text{ Hz} \\
 a_1 &= 0.0014916 \\
 a_2 &= -2.6285e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0054608 \\
 c_2 &= 4.7922e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 721.57 \text{ s} \\
 \phi_{HeII} &= 4.2117 \\
 b_2 &= 1.3437e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 2481.3 \text{ s} \\
 \phi_{CZ} &= 9.537e-31 \\
 d_0 &= 0.023384 \\
 d_2 &= 1.0876e-06 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 421.52 \text{ s} \\
 \phi_{HI} &= 1.3929
 \end{aligned}$$

profile32

$$\chi^2_\nu(\text{dof} = 64) = 0.0049883$$



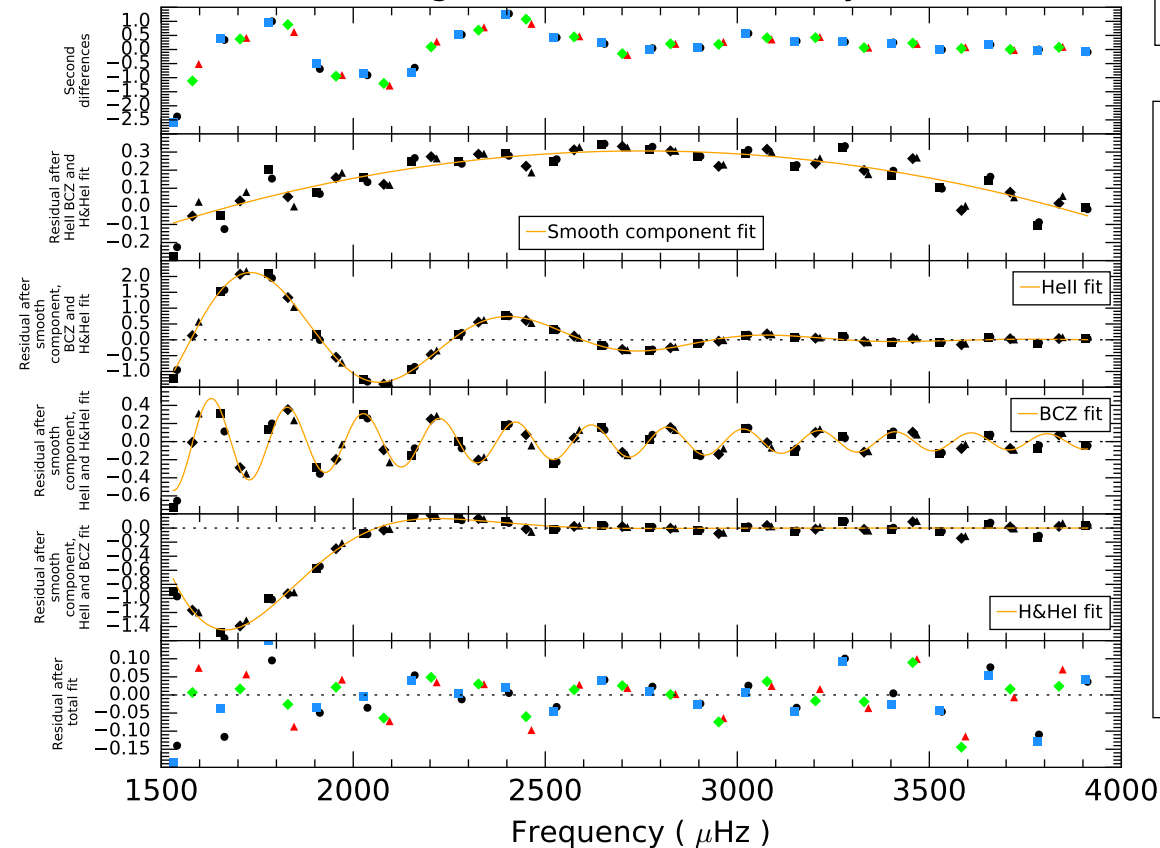
Age after ZAMS: 6.310 Gyr



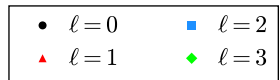
$$\begin{aligned}
 a_0 &= -1.7174 \mu \text{ Hz} \\
 a_1 &= 0.0014703 \\
 a_2 &= -2.6704e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0054428 \\
 c_2 &= 4.9388e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 735.13 \text{ s} \\
 \phi_{HeII} &= 4.2925 \\
 b_2 &= 1.2698e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 2528.1 \text{ s} \\
 \phi_{CZ} &= 8.1534e-31 \\
 d_0 &= 0.027305 \\
 d_2 &= 1.1815e-06 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 430.43 \text{ s} \\
 \phi_{HI} &= 1.4206
 \end{aligned}$$

profile33

$$\chi^2_\nu(\text{dof} = 64) = 0.0048137$$



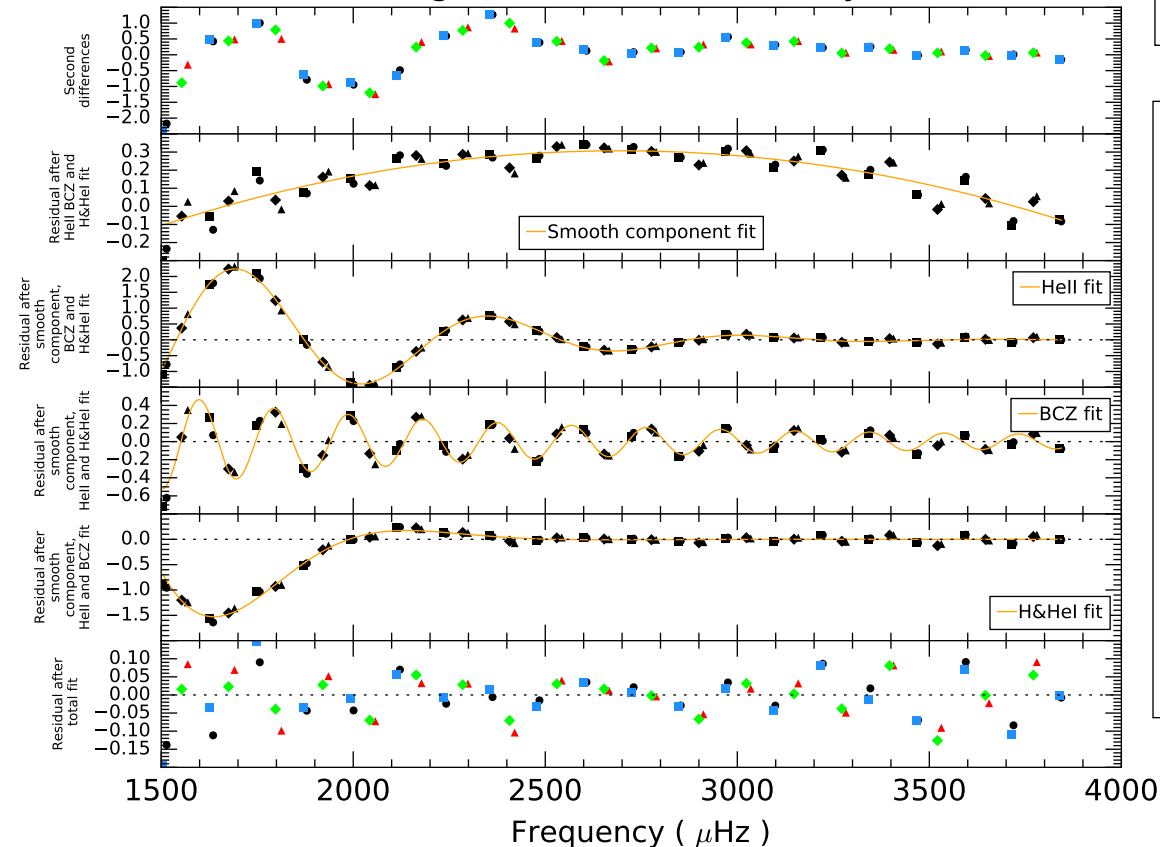
Age after ZAMS: 6.610 Gyr



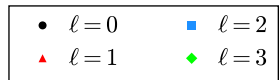
$$\begin{aligned}
 a_0 &= -1.7982 \mu \text{ Hz} \\
 a_1 &= 0.0015631 \\
 a_2 &= -2.9009e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0060758 \\
 c_2 &= 5.2905e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 750.37 \text{ s} \\
 \phi_{HeII} &= 4.3366 \\
 b_2 &= 1.1868e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 2578.4 \text{ s} \\
 \phi_{CZ} &= 3.48e-30 \\
 d_0 &= 0.029243 \\
 d_2 &= 1.2317e-06 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 473.65 \text{ s} \\
 \phi_{HI} &= 0.7289
 \end{aligned}$$

profile34

$$\chi^2_{\nu}(\text{dof} = 64) = 0.0047903$$



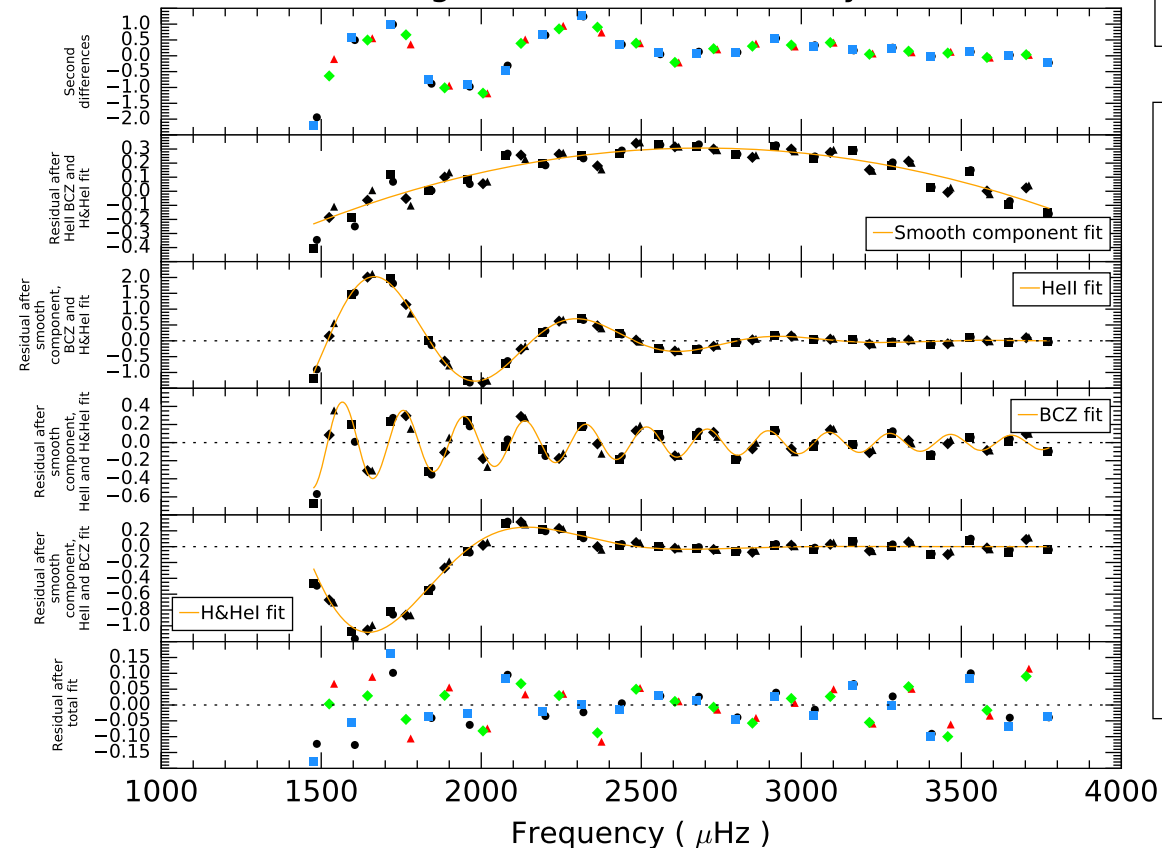
Age after ZAMS: 6.910 Gyr



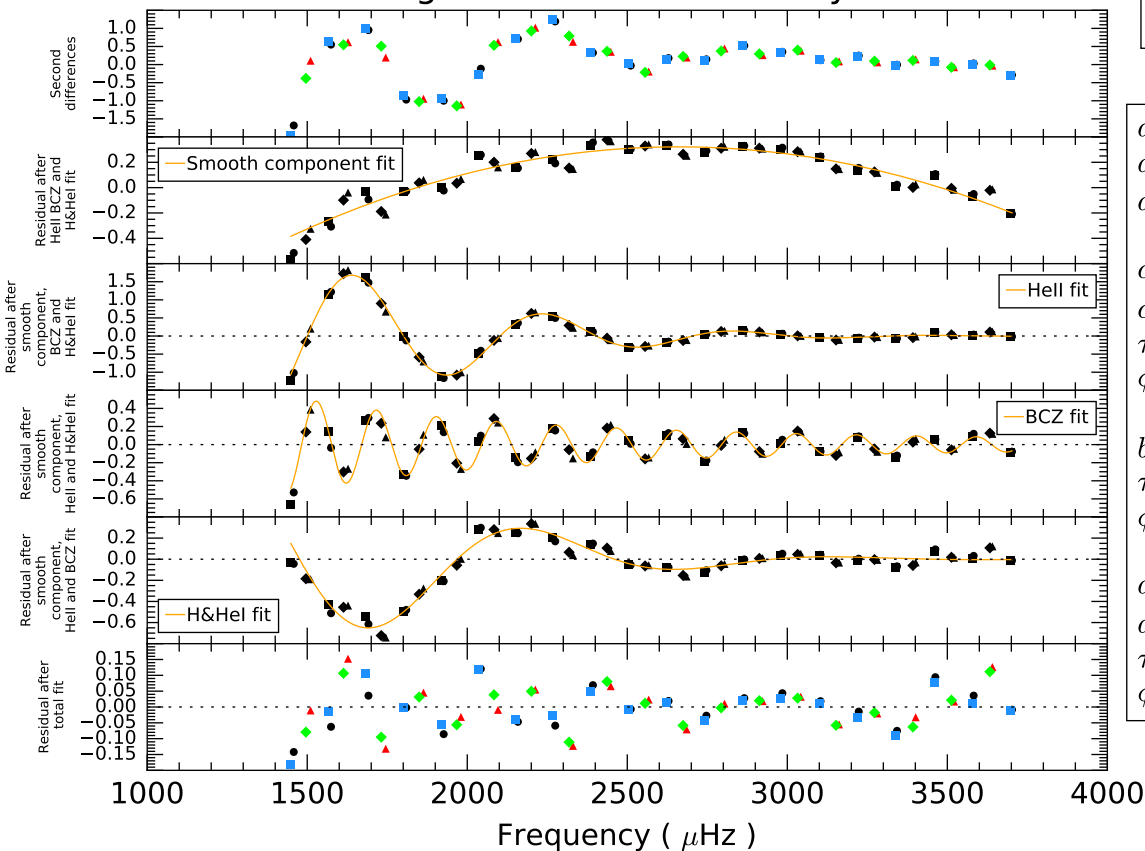
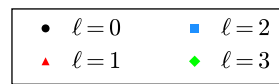
$$\begin{aligned}
 a_0 &= -2.3376 \mu \text{ Hz} \\
 a_1 &= 0.0019656 \\
 a_2 &= -3.6523e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0056367 \\
 c_2 &= 5.4929e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 781.83 \text{ s} \\
 \phi_{HeII} &= 3.928 \\
 b_2 &= 1.0998e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 2631.9 \text{ s} \\
 \phi_{CZ} &= 4.4897e-07 \\
 d_0 &= 0.0079193 \\
 d_2 &= 8.9151e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 481.34 \text{ s} \\
 \phi_{HI} &= 0.66226
 \end{aligned}$$

profile35

$$\chi^2_{\nu}(\text{dof} = 64) = 0.0050908$$



Age after ZAMS: 7.210 Gyr



$a_0 = -3.0822 \mu \text{ Hz}$
 $a_1 = 0.002559$
 $a_2 = -4.809e-07 \mu\text{Hz}^{-1}$

 $c_0 = 0.0047219$
 $c_2 = 5.6606e-07 \mu\text{Hz}^{-2}$
 $\tau_{HeII} = 830.82 \text{ s}$
 $\phi_{HeII} = 3.1898$

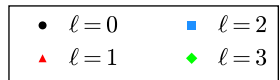
 $b_2 = 1.1223e+06 \text{ mHz}^3$
 $\tau_{CZ} = 2667.2 \text{ s}$
 $\phi_{CZ} = 0.57942$

 $d_0 = 0.0019178$
 $d_2 = 5.5494e-07 \mu\text{Hz}^{-2}$
 $\tau_{HI} = 508.28 \text{ s}$
 $\phi_{HI} = 6.2815$

profile36

$\chi^2_{\nu}(\text{dof} = 64) = 0.005246$

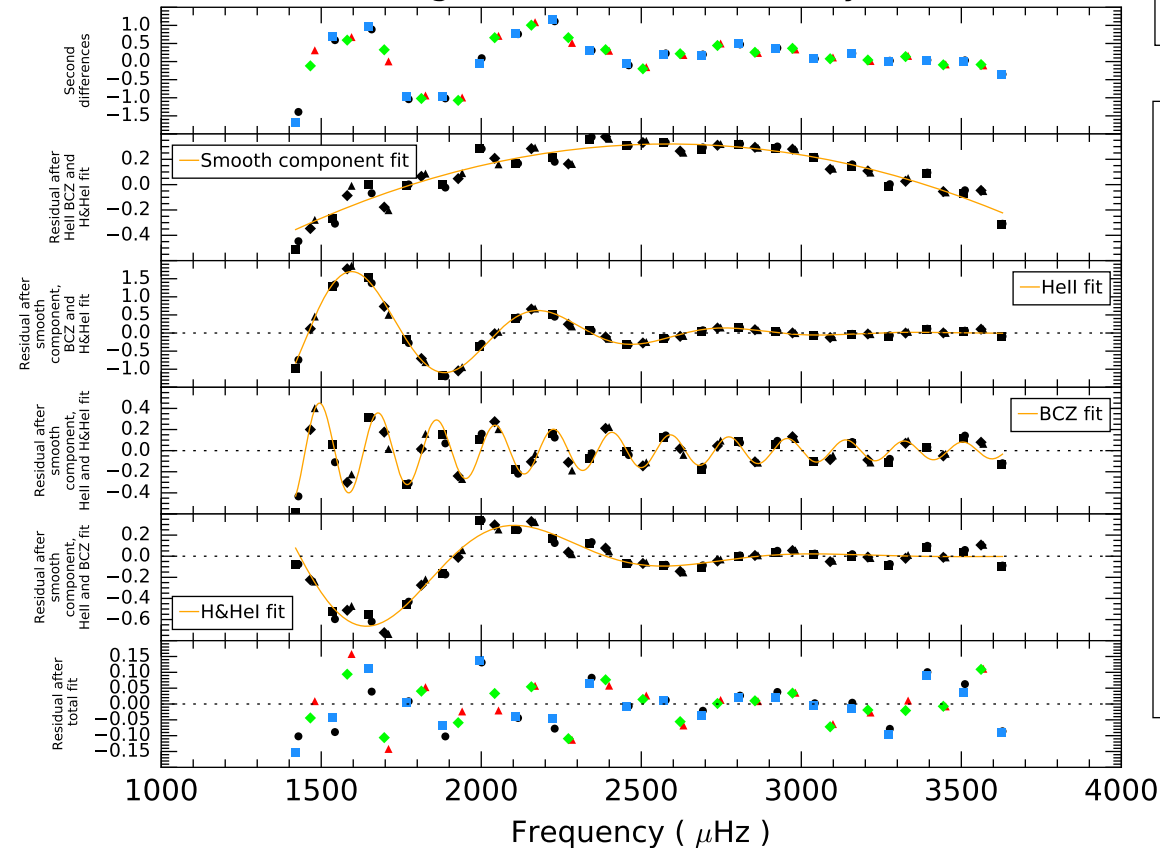
Age after ZAMS: 7.510 Gyr



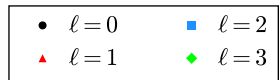
$$\begin{aligned}
 a_0 &= -3.0084 \mu\text{Hz} \\
 a_1 &= 0.0025767 \\
 a_2 &= -4.9852e-07 \mu\text{Hz}^{-1} \\
 c_0 &= 0.0048447 \\
 c_2 &= 5.9307e-07 \mu\text{Hz}^{-2} \\
 \tau_{HeII} &= 848.17 \text{ s} \\
 \phi_{HeII} &= 3.306 \\
 b_2 &= 1.0076e+06 \text{ mHz}^3 \\
 \tau_{CZ} &= 2737.8 \text{ s} \\
 \phi_{CZ} &= 0.37481 \\
 d_0 &= 0.0020852 \\
 d_2 &= 6.0131e-07 \mu\text{Hz}^{-2} \\
 \tau_{HI} &= 523.32 \text{ s} \\
 \phi_{HI} &= 6.2824
 \end{aligned}$$

profile37

$$\chi^2_\nu(\text{dof} = 64) = 0.0055655$$



Age after ZAMS: 7.810 Gyr



$a_0 = -2.9614 \mu\text{ Hz}$
 $a_1 = 0.0025155$
 $a_2 = -4.8853e-07 \mu\text{ Hz}^{-1}$

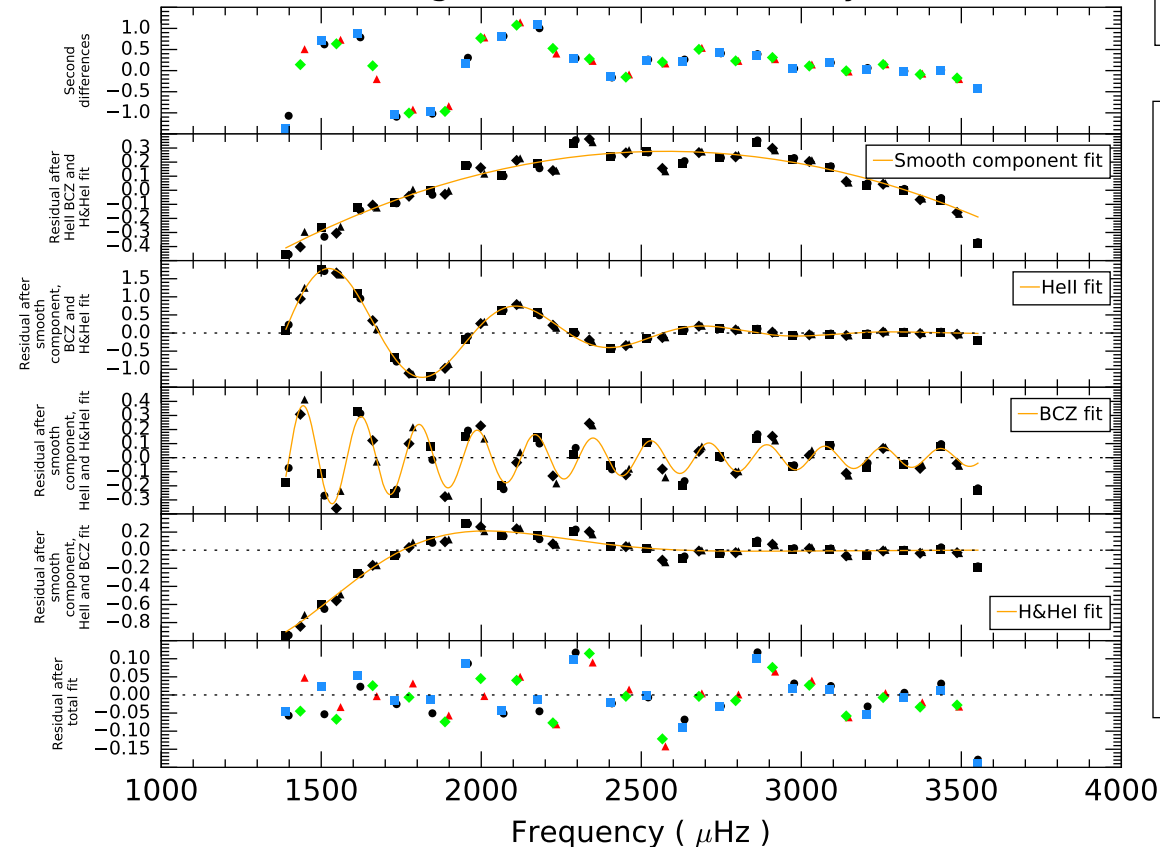
 $c_0 = 0.004313$
 $c_2 = 5.5976e-07 \mu\text{ Hz}^{-2}$
 $\tau_{HeII} = 845.75 \text{ s}$
 $\phi_{HeII} = 4.1313$

 $b_2 = 7.7174e+05 \text{ mHz}^3$
 $\tau_{CZ} = 2762.1 \text{ s}$
 $\phi_{CZ} = 1.6925$

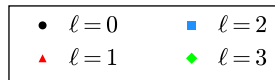
 $d_0 = 0.0029678$
 $d_2 = 7.6877e-07 \mu\text{ Hz}^{-2}$
 $\tau_{HI} = 285.95 \text{ s}$
 $\phi_{HI} = 6.2656$

profile38

$\chi^2_{\nu}(\text{dof} = 64) = 0.0046004$



Age after ZAMS: 8.110 Gyr



$a_0 = -2.9 \mu \text{ Hz}$
 $a_1 = 0.0026509$
 $a_2 = -5.4669e-07 \mu \text{ Hz}^{-1}$

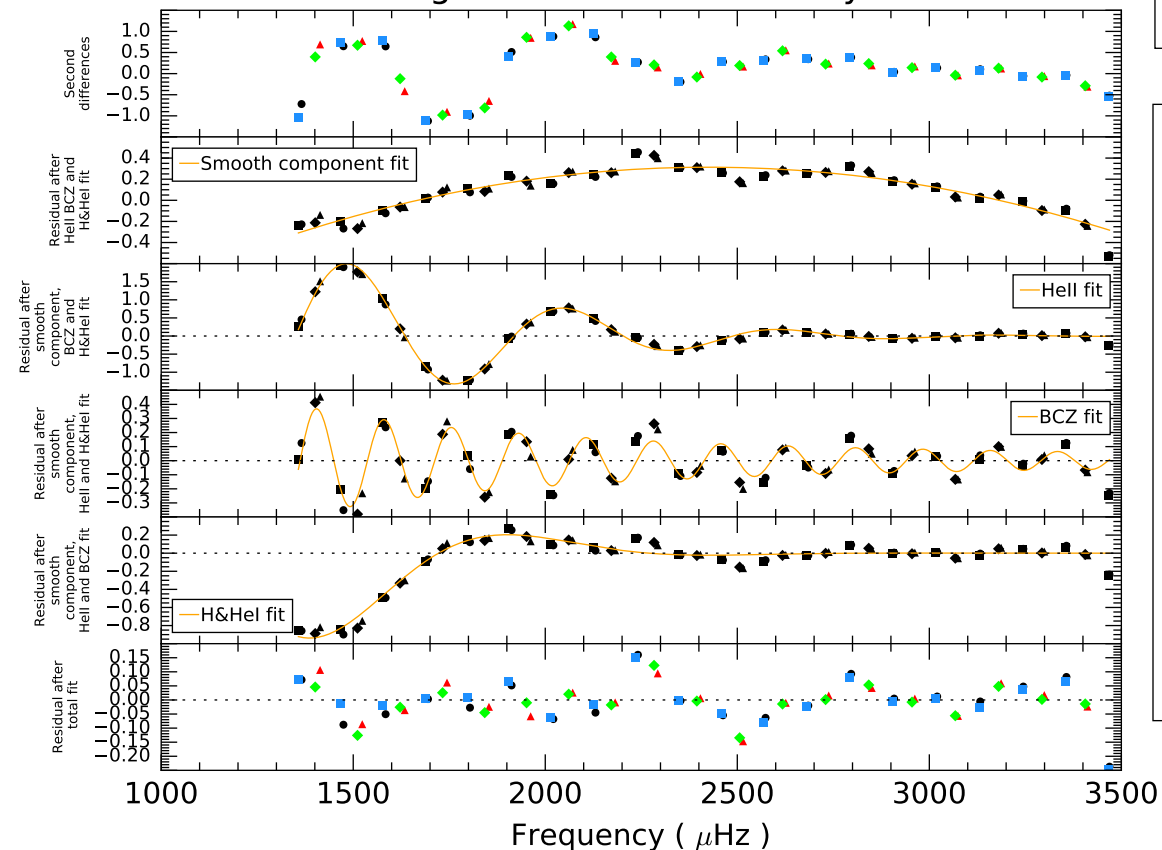
 $c_0 = 0.0055032$
 $c_2 = 6.3748e-07 \mu \text{ Hz}^{-2}$
 $\tau_{HeII} = 880.26 \text{ s}$
 $\phi_{HeII} = 3.9145$

 $b_2 = 7.2791e+05 \text{ mHz}^3$
 $\tau_{CZ} = 2851.3 \text{ s}$
 $\phi_{CZ} = 1.4799$

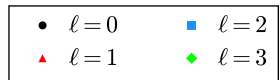
 $d_0 = 0.0052731$
 $d_2 = 1.0344e-06 \mu \text{ Hz}^{-2}$
 $\tau_{HI} = 456.85 \text{ s}$
 $\phi_{HI} = 2.6803$

profile39

$\chi^2_{\nu}(\text{dof} = 64) = 0.0060273$



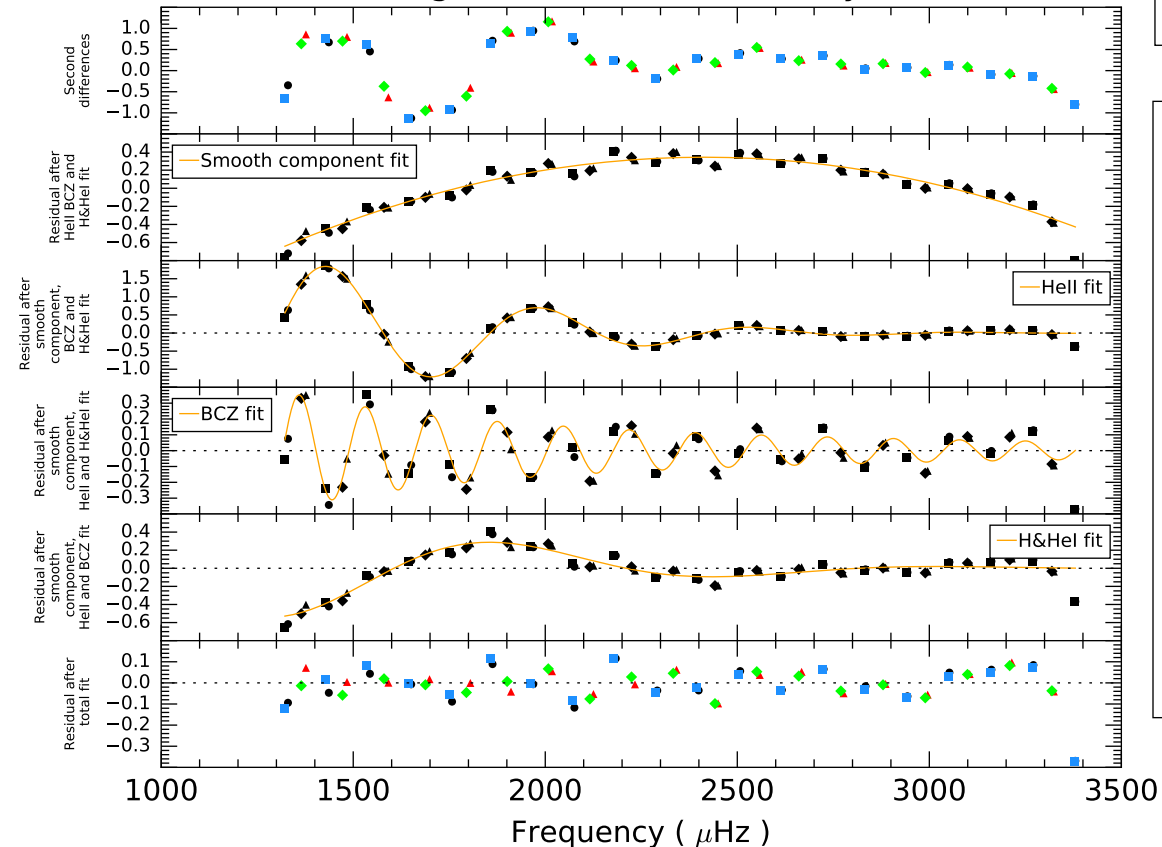
Age after ZAMS: 8.410 Gyr



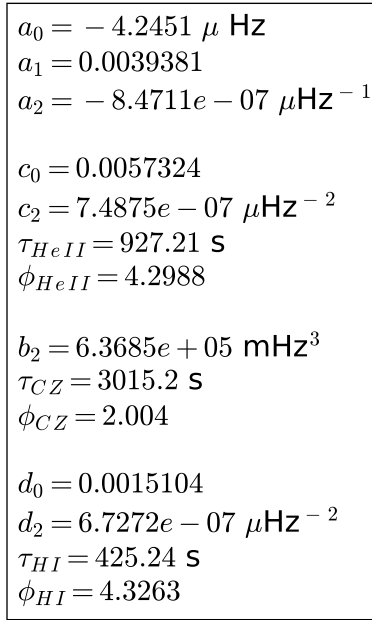
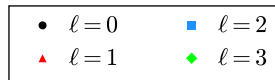
$$\begin{aligned}
 a_0 &= -4.4652 \mu \text{ Hz} \\
 a_1 &= 0.0039838 \\
 a_2 &= -8.2516e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0052413 \\
 c_2 &= 6.8459e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 897.32 \text{ s} \\
 \phi_{HeII} &= 4.209 \\
 b_2 &= 6.4956e+05 \text{ mHz}^3 \\
 \tau_{CZ} &= 2909.0 \text{ s} \\
 \phi_{CZ} &= 2.1193 \\
 d_0 &= 0.0010312 \\
 d_2 &= 5.3943e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 413.51 \text{ s} \\
 \phi_{HI} &= 4.2233
 \end{aligned}$$

profile40

$$\chi^2_\nu(\text{dof} = 64) = 0.0084001$$

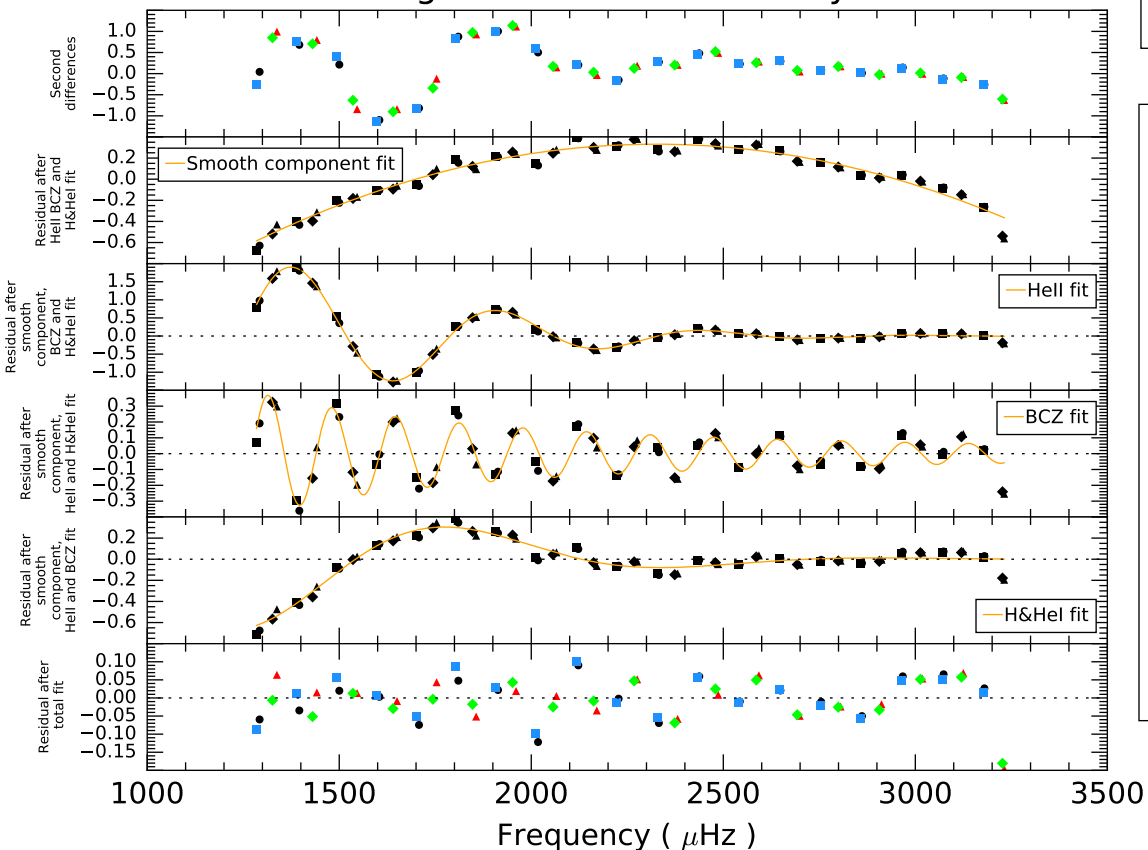


Age after ZAMS: 8.708 Gyr

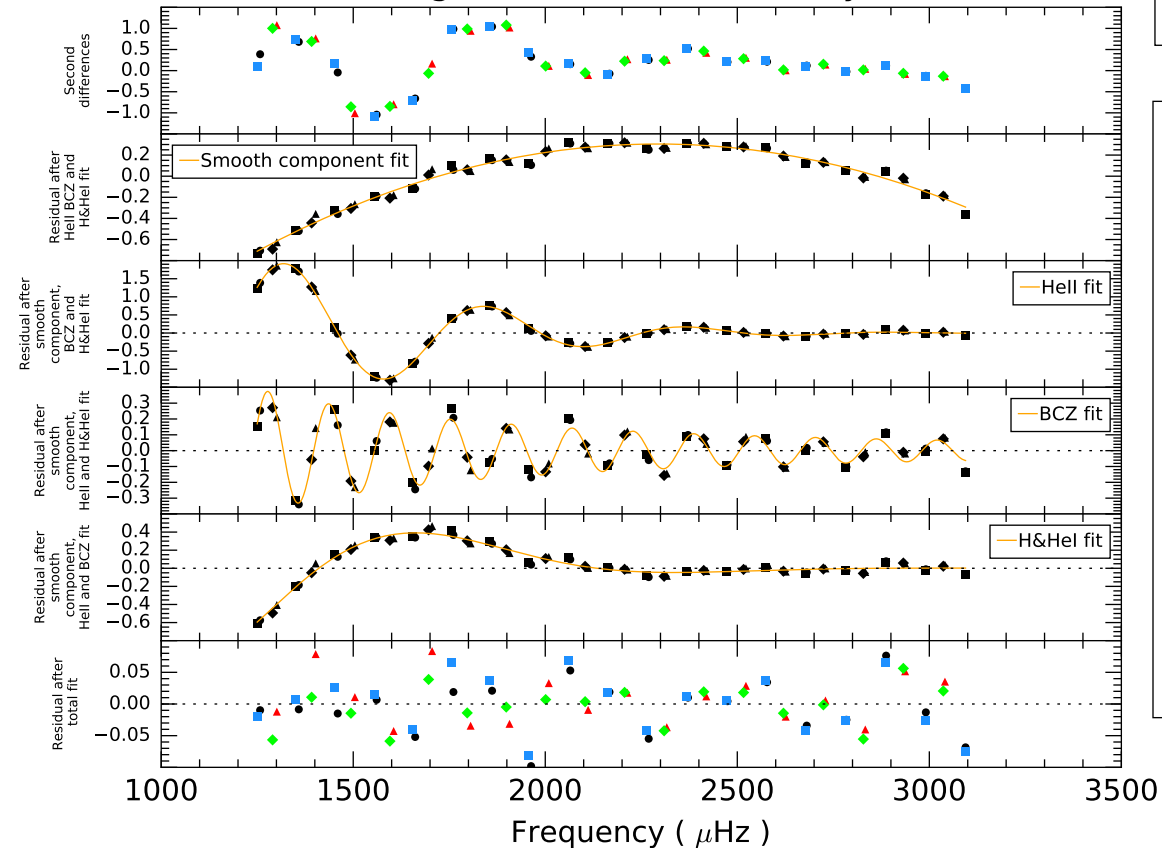
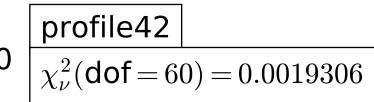
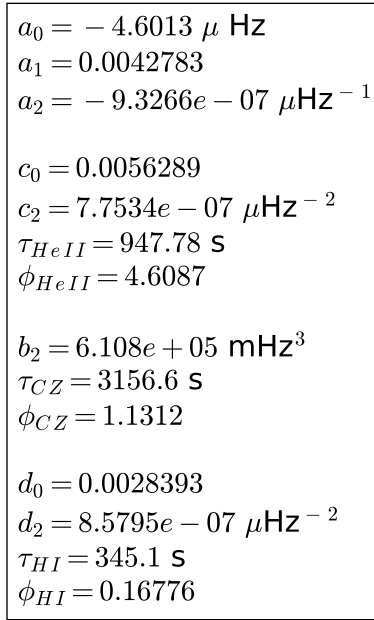
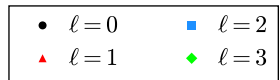


profile41

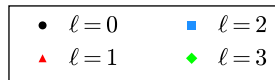
$\chi^2_\nu(\text{dof} = 62) = 0.0039193$



Age after ZAMS: 8.972 Gyr



Age after ZAMS: 9.117 Gyr



$a_0 = -2.5795 \mu \text{ Hz}$
 $a_1 = 0.0027203$
 $a_2 = -6.4184e-07 \mu \text{ Hz}^{-1}$

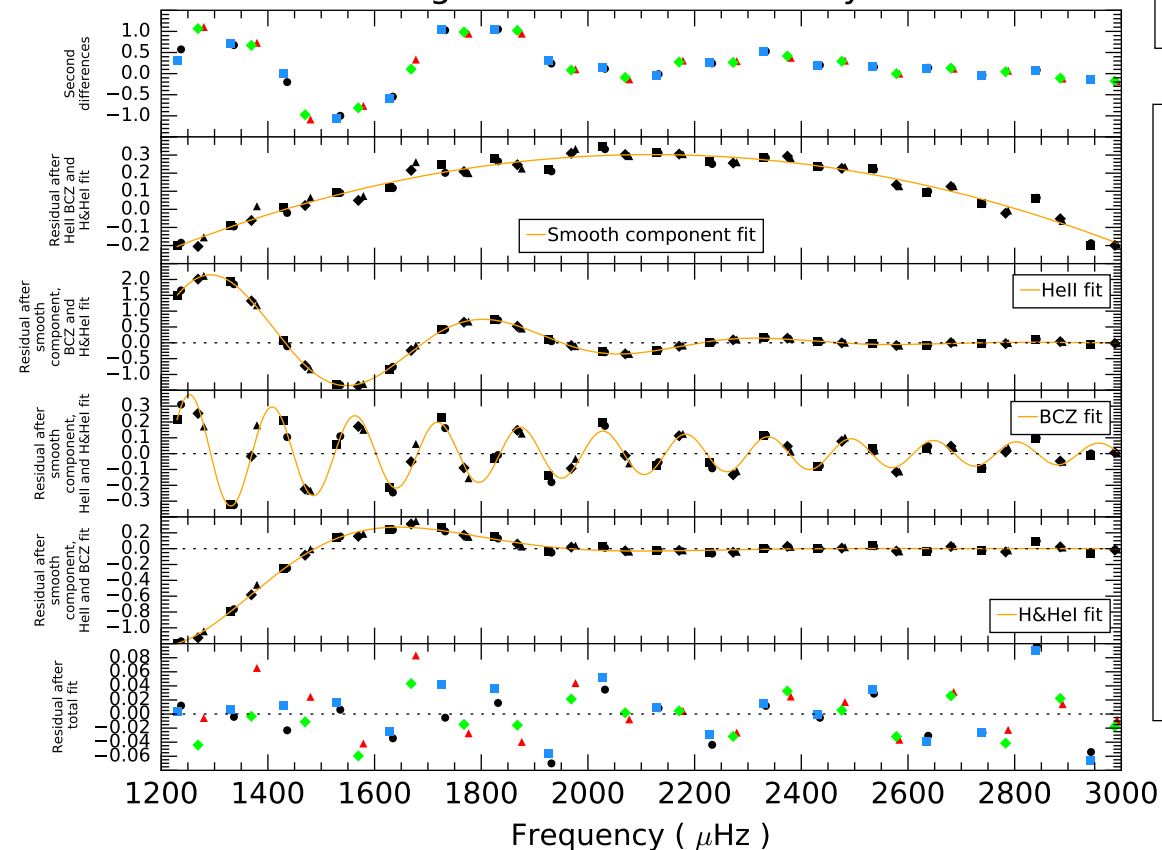
 $c_0 = 0.0071884$
 $c_2 = 8.7293e-07 \mu \text{ Hz}^{-2}$
 $\tau_{HeII} = 965.21 \text{ s}$
 $\phi_{HeII} = 4.6219$

 $b_2 = 5.8609e+05 \text{ mHz}^3$
 $\tau_{CZ} = 3227.2 \text{ s}$
 $\phi_{CZ} = 0.98309$

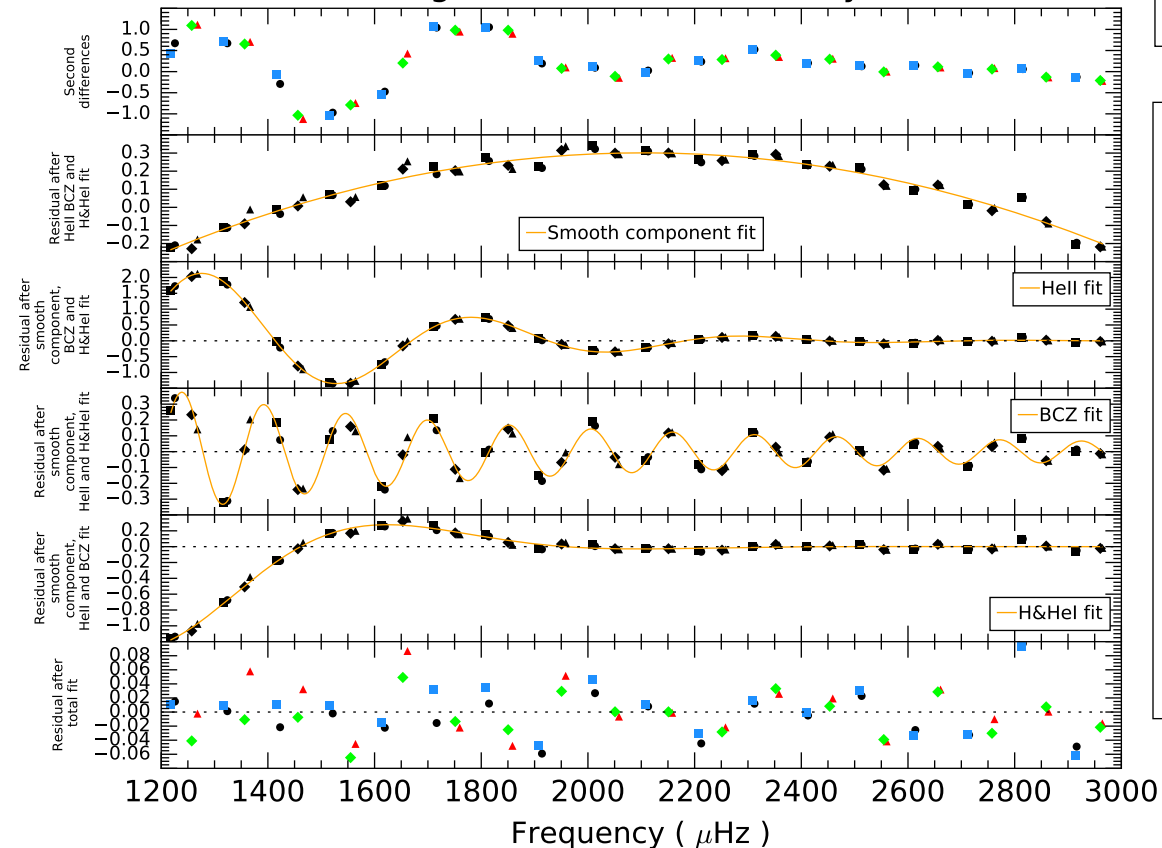
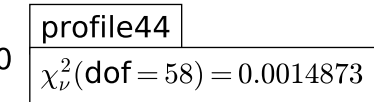
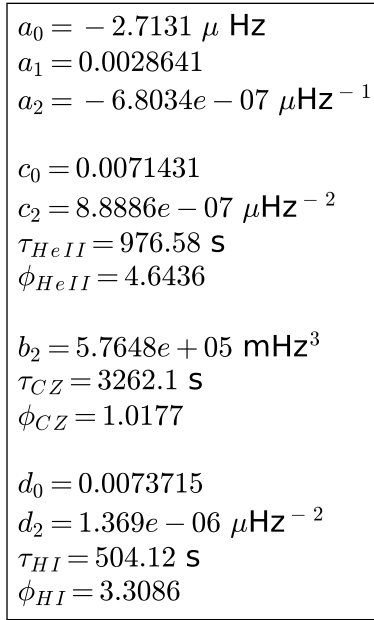
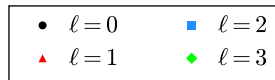
 $d_0 = 0.0077406$
 $d_2 = 1.3646e-06 \mu \text{ Hz}^{-2}$
 $\tau_{HI} = 524.21 \text{ s}$
 $\phi_{HI} = 2.7635$

profile43

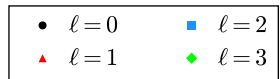
$\chi^2_{\nu}(\text{dof} = 58) = 0.0015476$



Age after ZAMS: 9.197 Gyr



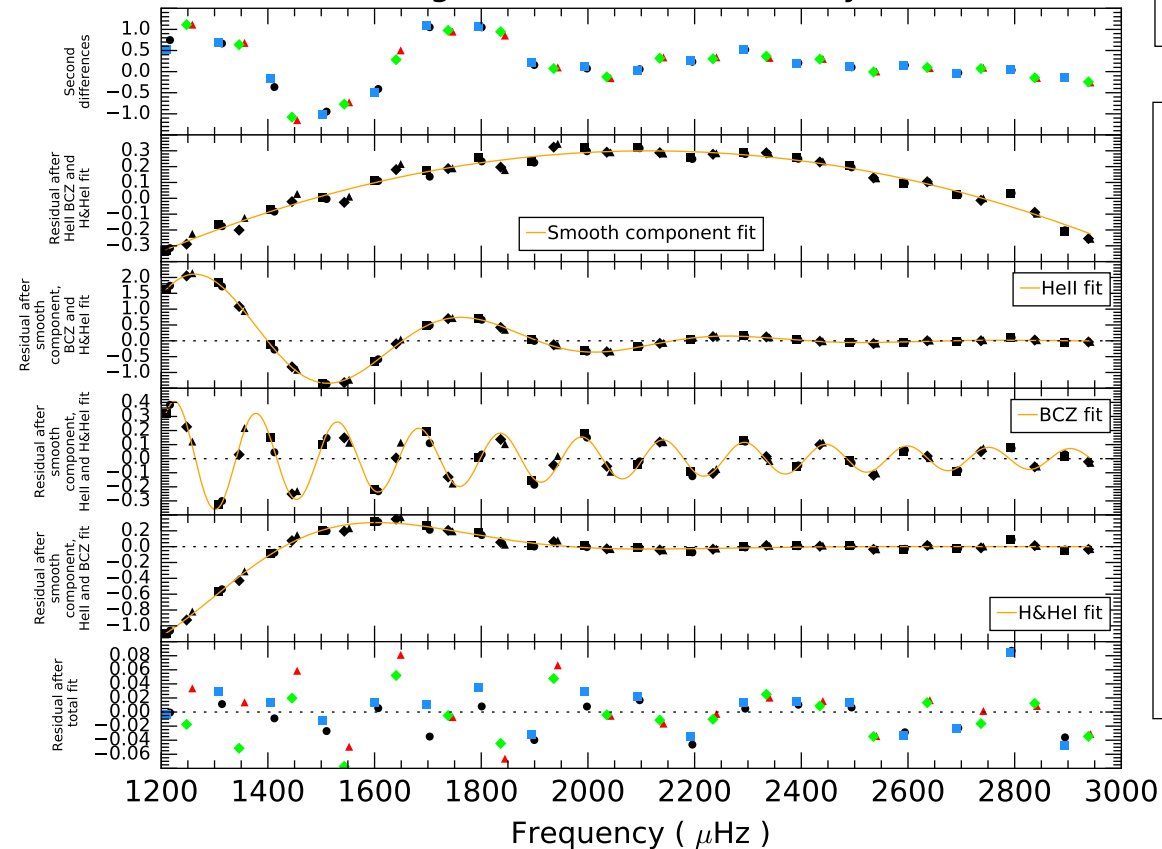
Age after ZAMS: 9.260 Gyr



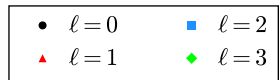
$$\begin{aligned}
 a_0 &= -3.1079 \mu\text{Hz} \\
 a_1 &= 0.003225 \\
 a_2 &= -7.6304e-07 \mu\text{Hz}^{-1} \\
 c_0 &= 0.0070913 \\
 c_2 &= 9.0307e-07 \mu\text{Hz}^{-2} \\
 \tau_{HeII} &= 988.13 \text{ s} \\
 \phi_{HeII} &= 4.6185 \\
 b_2 &= 6.1175e+05 \text{ mHz}^3 \\
 \tau_{CZ} &= 3276.3 \text{ s} \\
 \phi_{CZ} &= 1.3683 \\
 d_0 &= 0.0062666 \\
 d_2 &= 1.2968e-06 \mu\text{Hz}^{-2} \\
 \tau_{HI} &= 466.66 \text{ s} \\
 \phi_{HI} &= 4.1836
 \end{aligned}$$

profile45

$$\chi^2_\nu(\text{dof} = 58) = 0.0013962$$



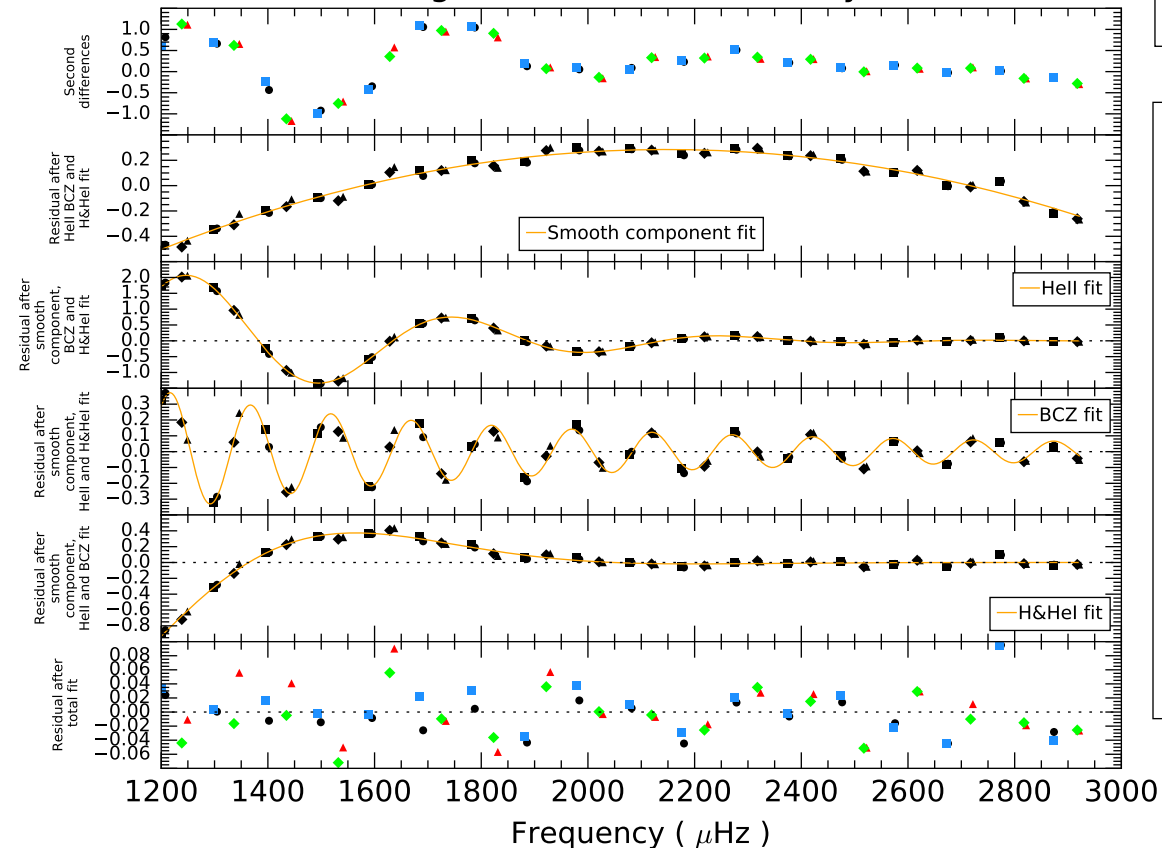
Age after ZAMS: 9.319 Gyr



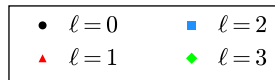
$$\begin{aligned}
 a_0 &= -3.7682 \mu \text{ Hz} \\
 a_1 &= 0.0037754 \\
 a_2 &= -8.7911e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0067539 \\
 c_2 &= 8.9883e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 991.92 \text{ s} \\
 \phi_{HeII} &= 4.7647 \\
 b_2 &= 5.5146e+05 \text{ mHz}^3 \\
 \tau_{CZ} &= 3321.4 \text{ s} \\
 \phi_{CZ} &= 1.0185 \\
 d_0 &= 0.0075547 \\
 d_2 &= 1.3188e-06 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 366.57 \text{ s} \\
 \phi_{HI} &= 1.637e-05
 \end{aligned}$$

profile46

$$\chi^2_\nu(\text{dof} = 58) = 0.0015063$$



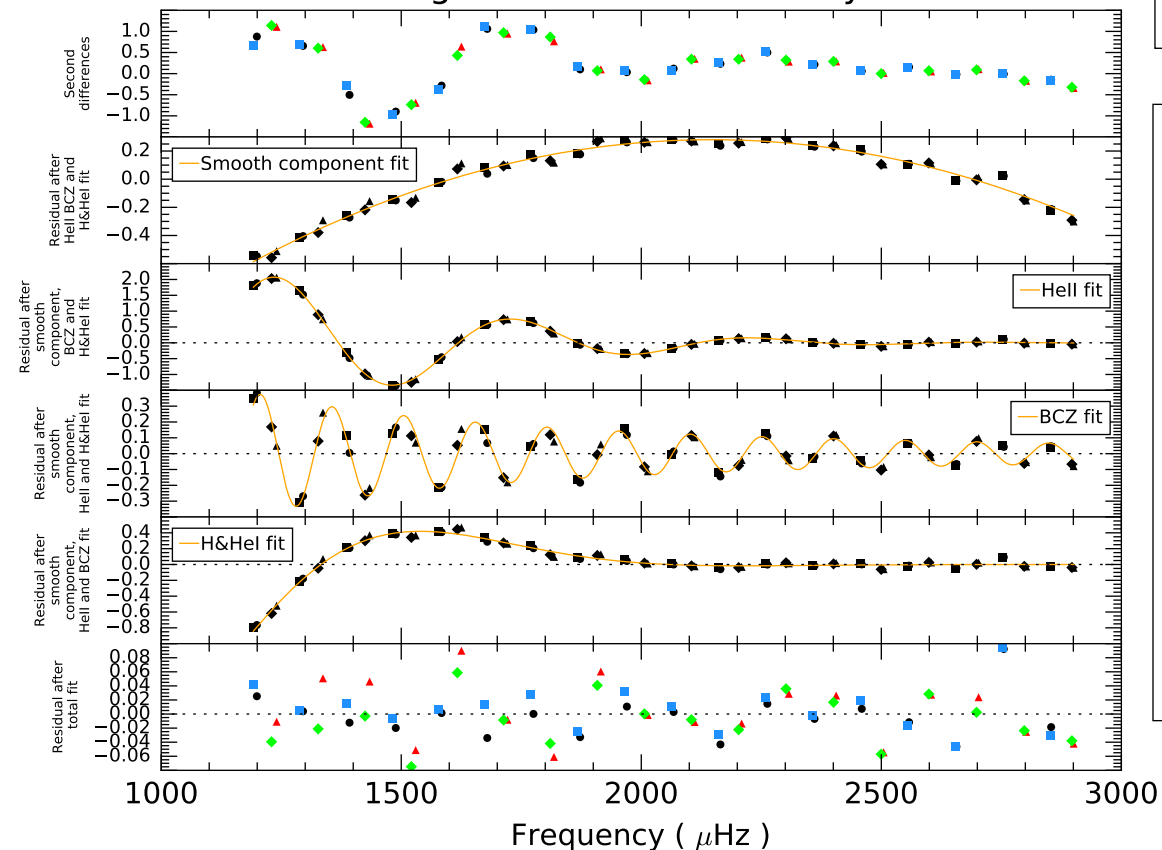
Age after ZAMS: 9.376 Gyr



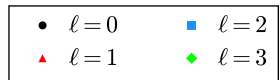
$$\begin{aligned}
 a_0 &= -4.0982 \mu \text{ Hz} \\
 a_1 &= 0.0040789 \\
 a_2 &= -9.4981e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0068305 \\
 c_2 &= 9.1608e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 1001.1 \text{ s} \\
 \phi_{HeII} &= 4.7708 \\
 b_2 &= 5.4546e+05 \text{ mHz}^3 \\
 \tau_{CZ} &= 3350.1 \text{ s} \\
 \phi_{CZ} &= 1.0165 \\
 d_0 &= 0.0081343 \\
 d_2 &= 1.3294e-06 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 345.67 \text{ s} \\
 \phi_{HI} &= 0.49388
 \end{aligned}$$

profile47

$$\chi^2_{\nu}(\text{dof} = 58) = 0.0015488$$



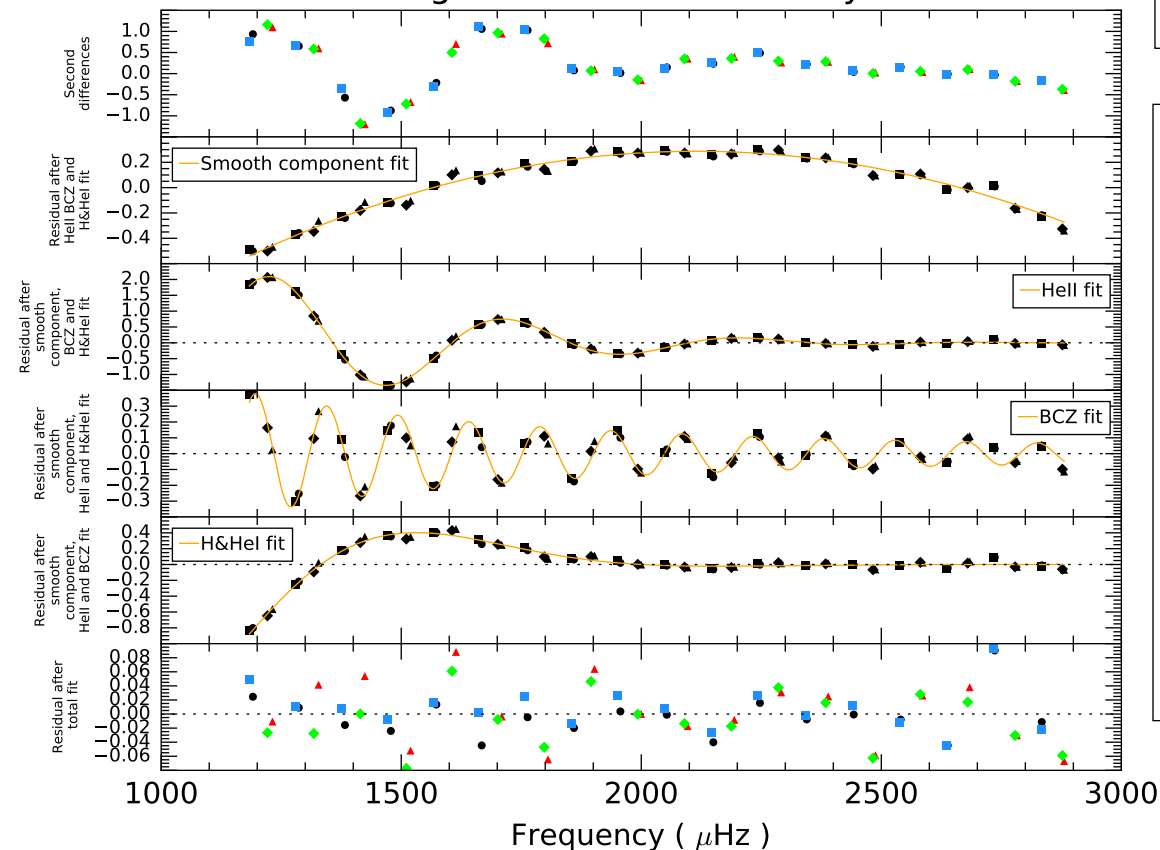
Age after ZAMS: 9.430 Gyr



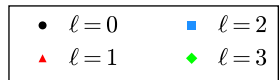
$$\begin{aligned}
 a_0 &= -3.9791 \mu \text{ Hz} \\
 a_1 &= 0.0040349 \\
 a_2 &= -9.5397e-07 \mu \text{ Hz}^{-1} \\
 c_0 &= 0.0070637 \\
 c_2 &= 9.4197e-07 \mu \text{ Hz}^{-2} \\
 \tau_{HeII} &= 1012.2 \text{ s} \\
 \phi_{HeII} &= 4.7276 \\
 b_2 &= 5.4393e+05 \text{ mHz}^3 \\
 \tau_{CZ} &= 3378.8 \text{ s} \\
 \phi_{CZ} &= 1.0002 \\
 d_0 &= 0.007511 \\
 d_2 &= 1.3388e-06 \mu \text{ Hz}^{-2} \\
 \tau_{HI} &= 375.34 \text{ s} \\
 \phi_{HI} &= 6.2832
 \end{aligned}$$

profile48

$$\chi^2_\nu(\text{dof} = 58) = 0.0016744$$



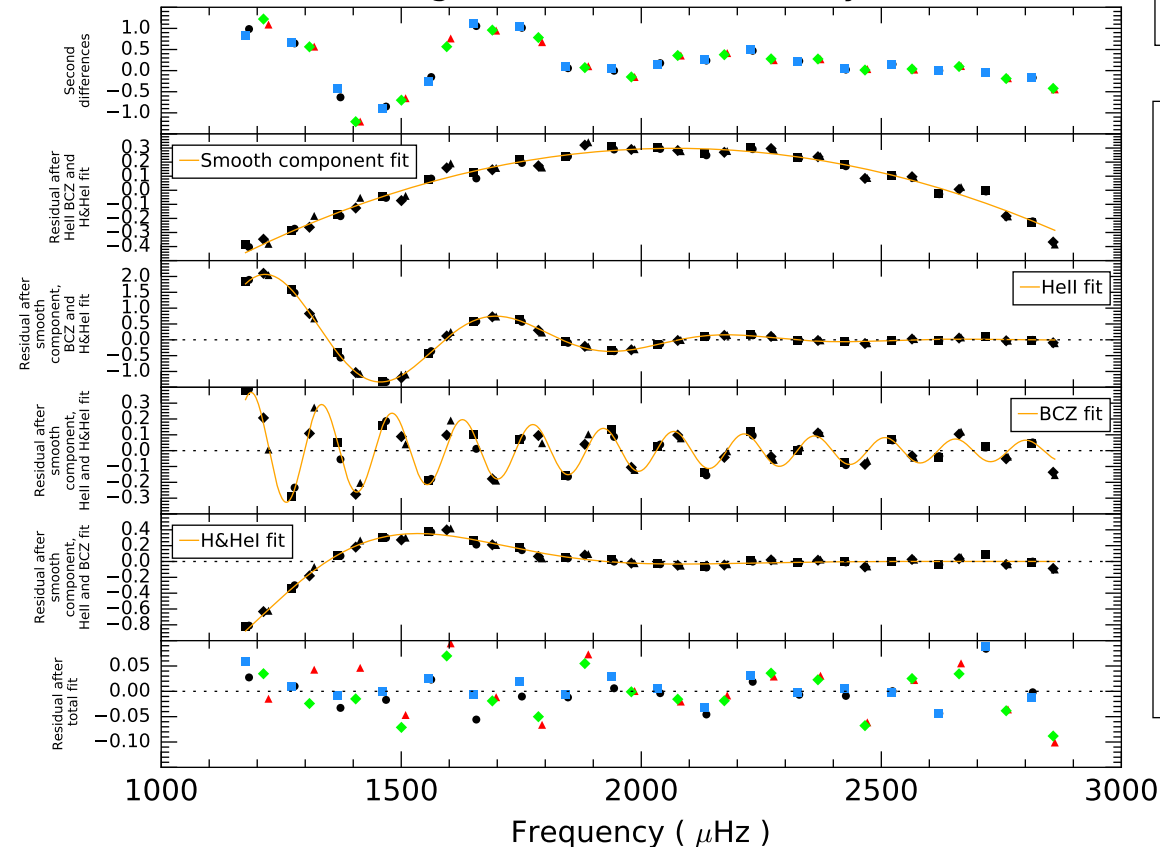
Age after ZAMS: 9.483 Gyr



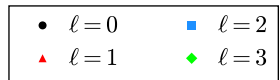
$a_0 = -3.6778 \mu\text{ Hz}$
 $a_1 = 0.0038429$
 $a_2 = -9.2858e-07 \mu\text{ Hz}^{-1}$
 $c_0 = 0.0070253$
 $c_2 = 9.5475e-07 \mu\text{ Hz}^{-2}$
 $\tau_{HeII} = 1026.6 \text{ s}$
 $\phi_{HeII} = 4.6109$
 $b_2 = 5.1919e+05 \text{ mHz}^3$
 $\tau_{CZ} = 3409.9 \text{ s}$
 $\phi_{CZ} = 0.91871$
 $d_0 = 0.0055728$
 $d_2 = 1.2861e-06 \mu\text{ Hz}^{-2}$
 $\tau_{HI} = 429.87 \text{ s}$
 $\phi_{HI} = 5.2994$

profile49

$\chi^2_\nu(\text{dof} = 58) = 0.002021$



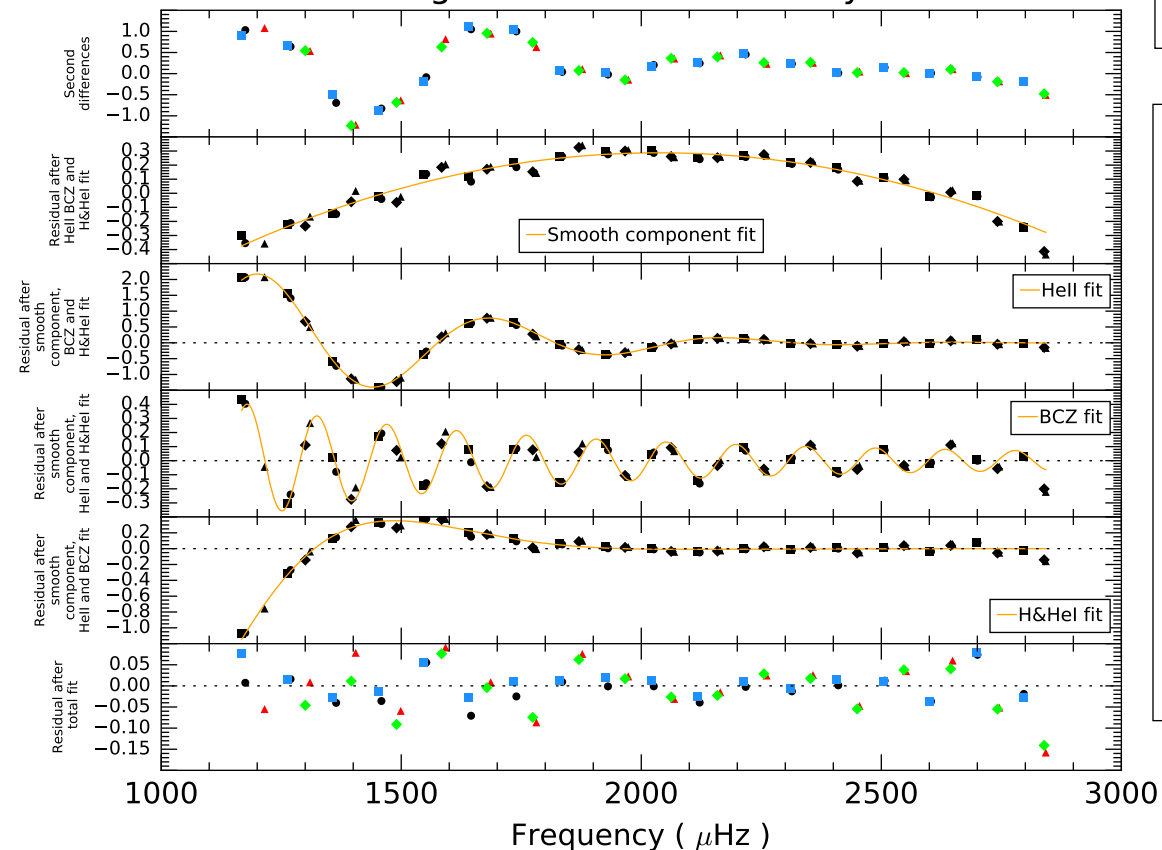
Age after ZAMS: 9.533 Gyr



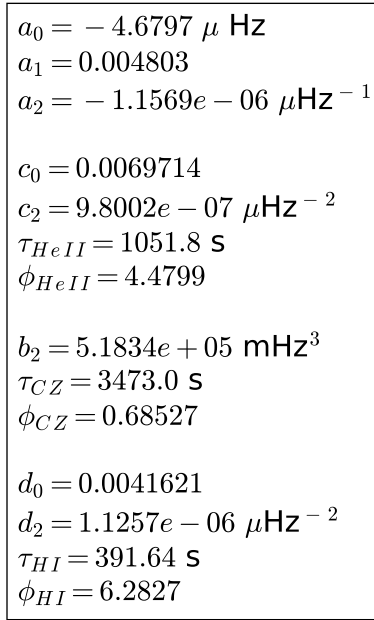
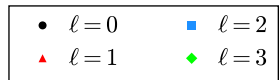
$a_0 = -3.3369 \mu \text{ Hz}$
 $a_1 = 0.0035575$
 $a_2 = -8.7289e-07 \mu \text{ Hz}^{-1}$
 $c_0 = 0.0073361$
 $c_2 = 9.6743e-07 \mu \text{ Hz}^{-2}$
 $\tau_{\text{He II}} = 1021.9 \text{ s}$
 $\phi_{\text{He II}} = 4.8982$
 $b_2 = 5.5896e+05 \text{ mHz}^3$
 $\tau_{\text{CZ}} = 3439.1 \text{ s}$
 $\phi_{\text{CZ}} = 0.8547$
 $d_0 = 0.016164$
 $d_2 = 1.768e-06 \mu \text{ Hz}^{-2}$
 $\tau_{\text{HI}} = 390.08 \text{ s}$
 $\phi_{\text{HI}} = 6.1007$

profile50

$\chi^2_{\nu}(\text{dof} = 57) = 0.0030063$

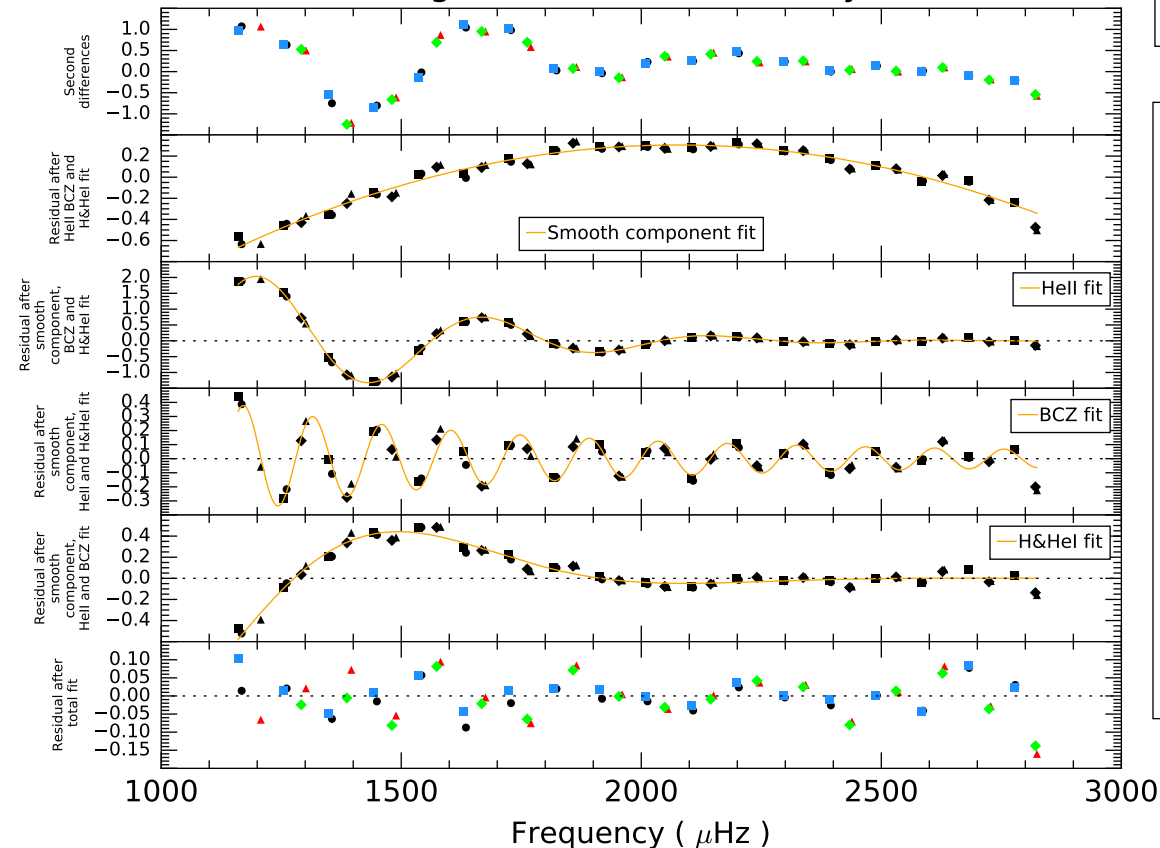


Age after ZAMS: 9.581 Gyr

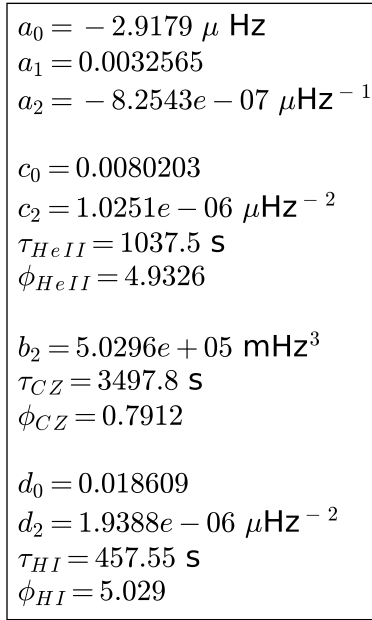
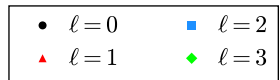


profile51

$\chi^2_\nu(\text{dof} = 57) = 0.0033942$

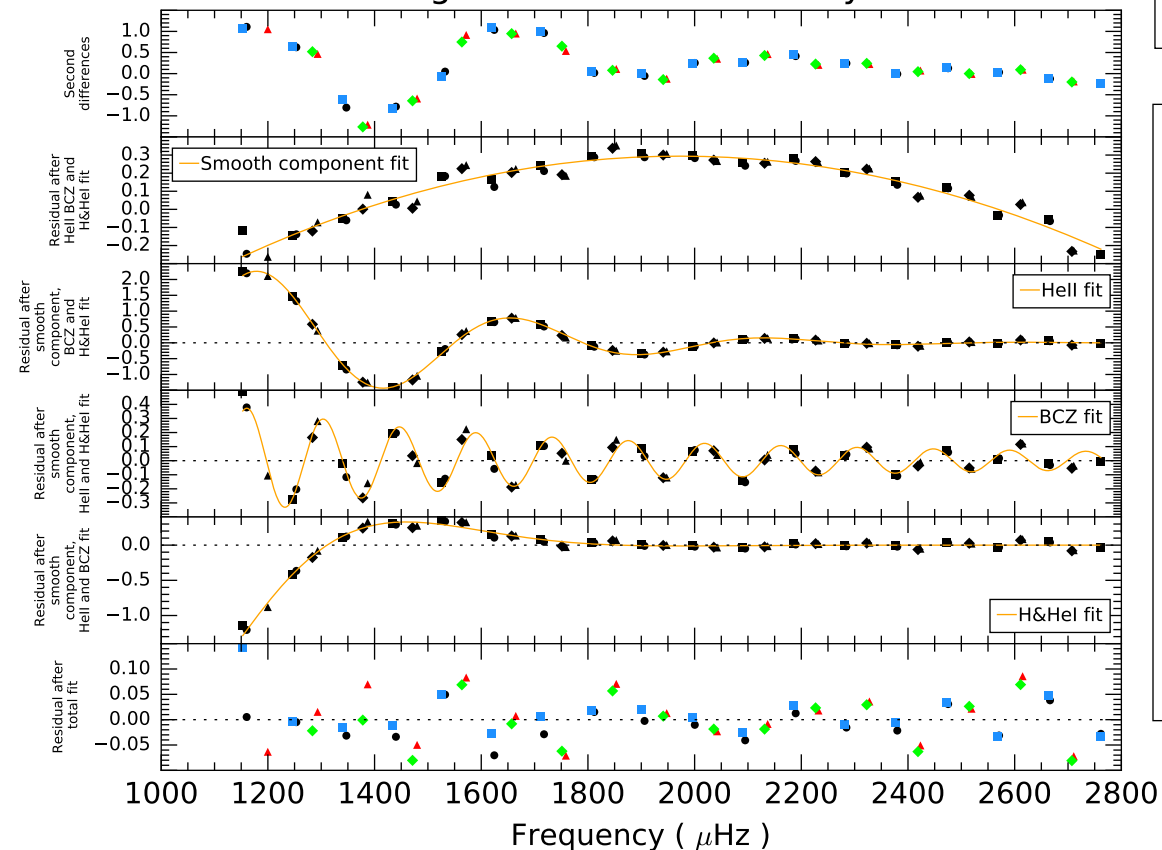


Age after ZAMS: 9.627 Gyr

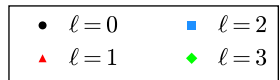


profile52

$\chi^2_\nu(\text{dof} = 55) = 0.0024091$



Age after ZAMS: 9.657 Gyr



$a_0 = -2.5855 \mu \text{ Hz}$
 $a_1 = 0.0029341$
 $a_2 = -7.5127e-07 \mu \text{ Hz}^{-1}$

 $c_0 = 0.0066948$
 $c_2 = 9.7379e-07 \mu \text{ Hz}^{-2}$
 $\tau_{HeII} = 1037.4 \text{ s}$
 $\phi_{HeII} = 5.0845$

 $b_2 = 4.5212e+05 \text{ mHz}^3$
 $\tau_{CZ} = 3501.3 \text{ s}$
 $\phi_{CZ} = 1.0902$

 $d_0 = 0.040429$
 $d_2 = 2.2532e-06 \mu \text{ Hz}^{-2}$
 $\tau_{HI} = 259.75 \text{ s}$
 $\phi_{HI} = 2.0604$

profile53

$\chi^2_\nu(\text{dof} = 55) = 0.0025253$

