

Hot stars in the whole CoRoT mission

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OB and Be stars in the CoRoT SISMO fields

40 hot stars observed including

- 12 Be stars (talk Eduardo Janot-Pacheco)
- 6 O stars
- 1 HgMn star (poster Thierry Morel, talk Georges Alecian)

Analysis of light curves

- + ground-based spectroscopy (ESO LPs, talk of PI Ennio Poretti)
- + ground-based spectropolarimetry

OB and Be stars in the CoRoT SISMO fields

<u>Star</u>	<u>Run</u>	<u>Sp Type</u>	<u>Star</u>	<u>Run</u>	<u>Sp Type</u>
HD 50846	IRa01	B5e+G	HD 46149	SRa02	O8.5V
HD 174884	SRc01	B6+B7	HD 46223	SRa02	O5
HD 175869	SCc01	B9IIIe	HD 51756	LRa02	B0.5V
HD 182198	LRc01	B9V	HD 51452	LRa02	B0IVe
HD 181440	LRc01	B9III	HD 43317	LRa03	B3IV
HD 180642	LRc01	B1.5II	HD 48752	SRa01/05	B9V
HD 181231	LRc01	B5Ve	HD 172046	LRc02	B8 SB2
HD 50064	LRa01	B6I	HD 51193	LRa02	B1Vnne
HD 50230	LRa01	B3V	HD 46769	SRa03	B8lab
HD 49330	LRa01	B0e	HD 43913	LRa03	A0e
HD 50209	LRa01	B9e	HD 43285	LRa04	B6Ve
HD 48977	SRa01	B2.5V	HD 45975	SRa04	B9V
HD 49677	SRa01	B9	HD 45418	SRa04	B4
HD 170935	LRc02	B8	HD 45546	SRa04	B2V
HD 174648	SRc02	B9	HD 171219	LRc05/6	B8e
HD 47129	SRa02	O8V	HD 170580	LRc05/6	B3V
HD 46966	SRa02	O8V	HD 170783	LRc05/6	B5e
HD 46179	SRa02	B9V	HD 49585	SRa06	B0e
HD 46202	SRa02	O9V	HD 42597	LRa05	B1V
HD 46150	SRa02	O6	HD 170200	LRc07	B8III

B stars

HD 180642 B1.5II

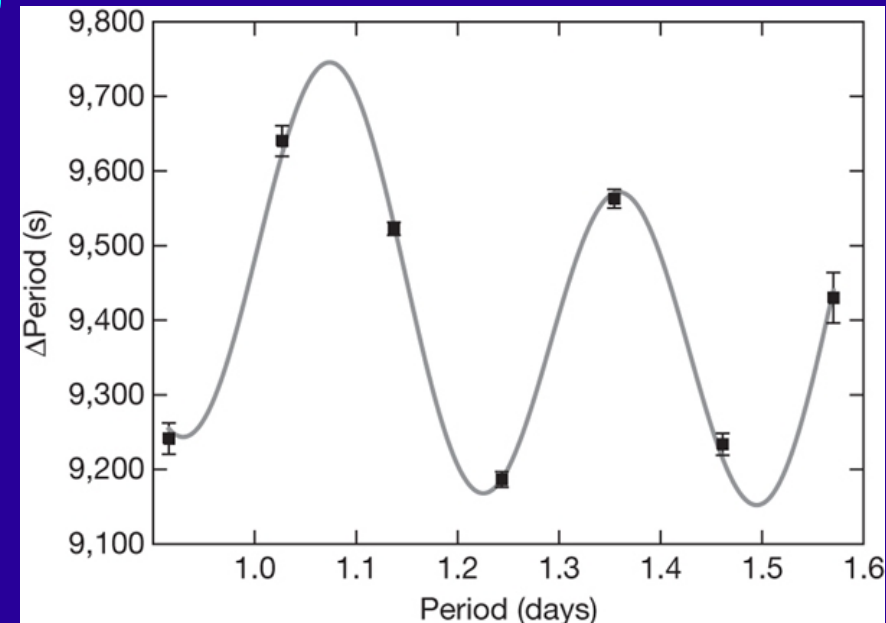
First discovery of solar-like oscillations
in a massive star

Belkacem et al. 2009, Science 324; Degroote et al. 2009, A&A 506, 111;
Briquet et al. 2009, A&A 506, 269; Aerts et al. 2011, A&A 534, 98

HD 50230 B3V

First observation of deviations from
a uniform period spacing
of gravity modes
in a hybrid B star

Degroote et al. 2010, Nature 464, 259;
Degroote et al. 2012, A&A, 542, 88;
Miglio et al. 2008, MNRAS 386, 1487

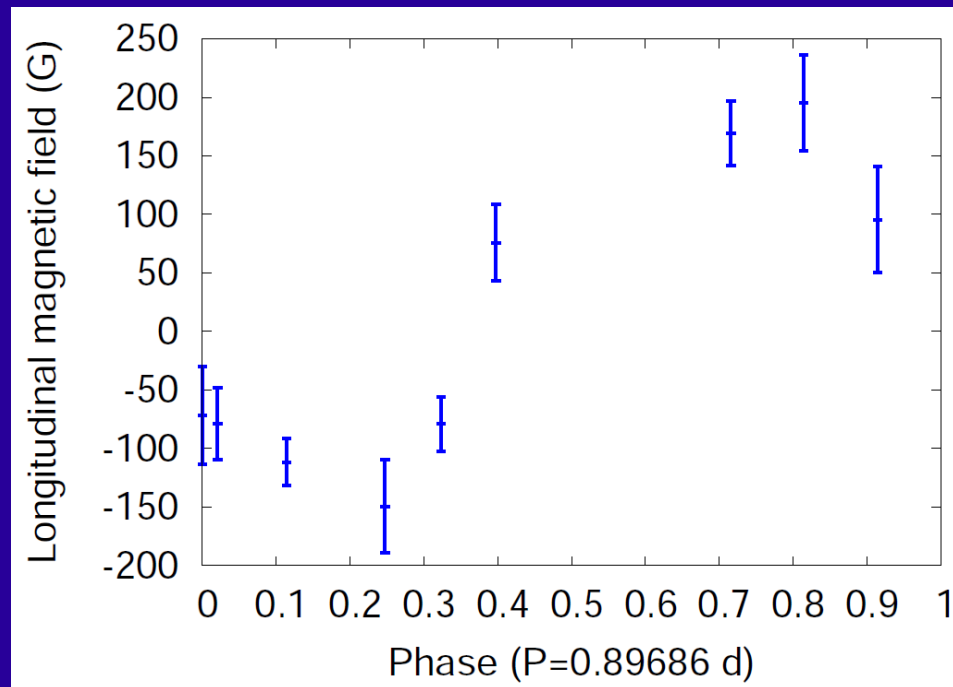


B stars

HD 43317 B3IV

Hybrid B pulsator with rotational modulation
and a magnetic field

Papics et al. 2012, A&A 542, 55



HD 48977 B2.5V

Hottest hybrid B star

Thoul et al. 2013, A&A 551

B stars

HD 174884 B6+B7

Tidally induced pulsations

Maceroni et al. 2009, A&A 508, 1375

HD 51756 B0.5V

No pulsation signal – rotational modulation only

Papics et al. 2011, A&A 528, 123

HD 182198 B9V – HD 181440 B9III – HD 49677 B9 –

HD 170935 B8 – HD 174648 B9 – HD 46179 B9V

Evidence for spots and
latitudinal differential rotation

Degroote et al. 2011, A&A 536, 82

Be stars

HD 50209 B9e

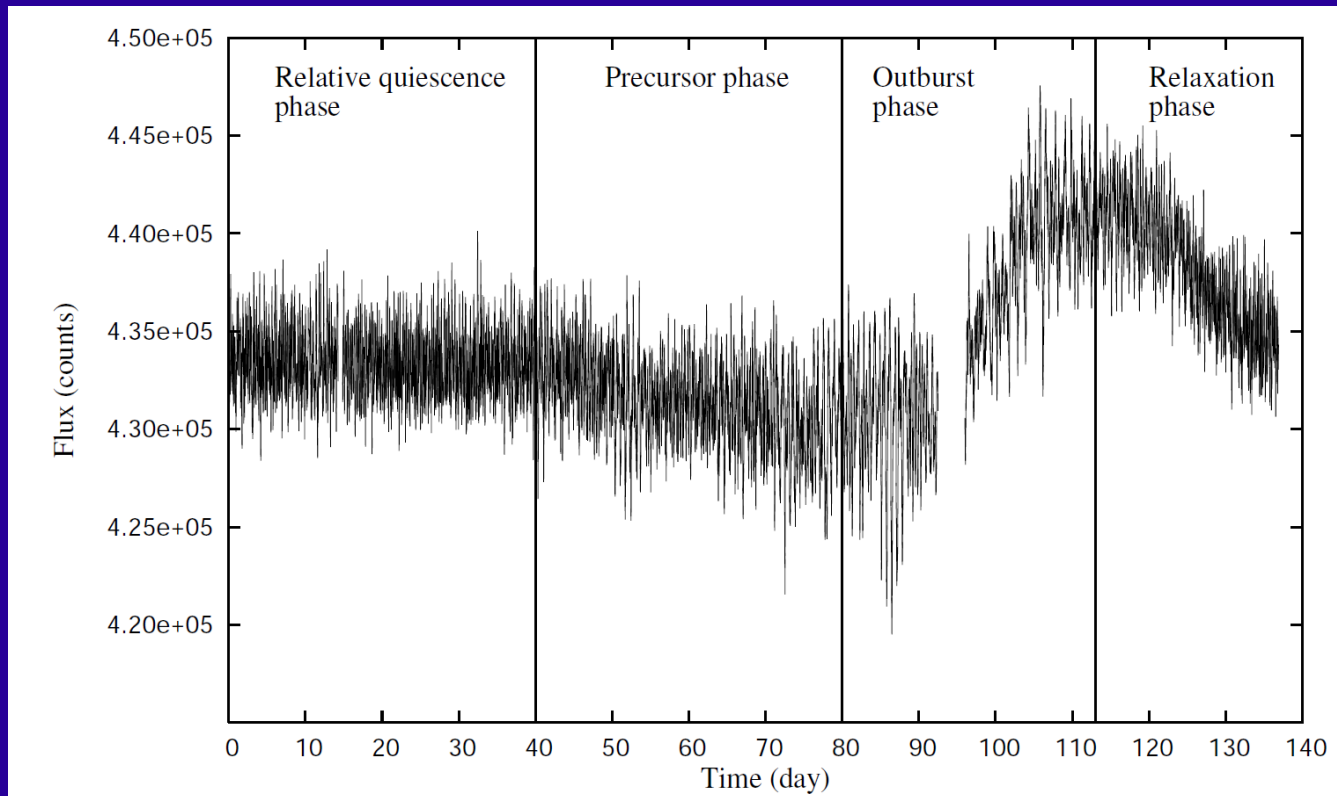
Stellar pulsations also in mid and late Be stars

Diago et al. 2009, A&A 506, 125

HD 49330 B0e

Correlation between pulsations and outbursts

Huat et al. 2009, A&A 506, 95; Floquet et al. 2009, A&A 506, 103



Be stars

HD 175869 B9IIIe – HD 181231 B5Ve

Determination of the size and mass of the core
of a Be star - extra mixing of $\alpha_{ov} = 0.3-0.35 H_p$

Gutierrez-Soto et al. 2009, A&A 506, 133; Neiner et al. 2009, A&A 506, 143;
Lovekin et al. 2010, AN 331, 1061; Neiner et al. 2012, A&A 539, 90

HD 51452 B0IVe

First discovery of stochastically excited
gravito-inertial modes

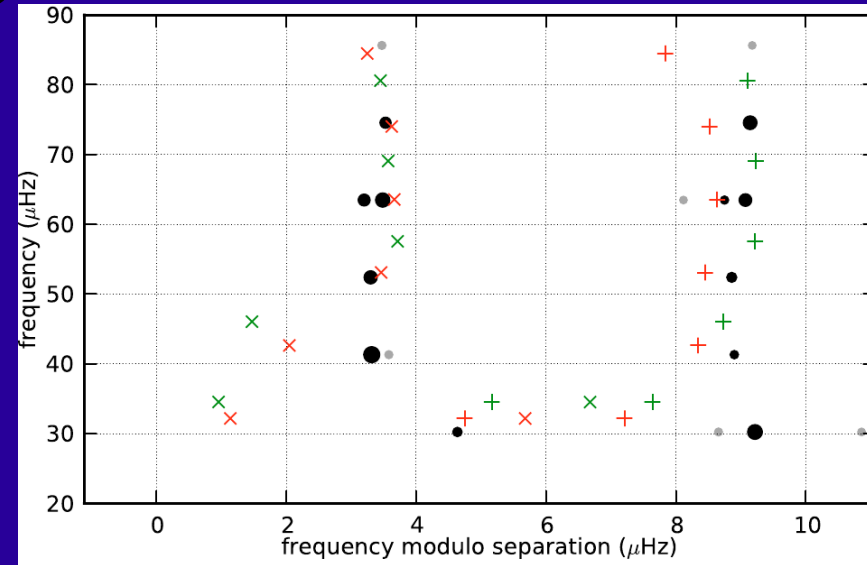
Neiner et al. 2012, A&A 546, 47

O stars

HD 46149 O8.5V

Solar-like modes that
fulfill an échelle diagram

Degroote et al. 2010, A&A 519, 38



HD 46202 O9V

β Cep-like modes not predicted to be excited

Briquet et al. 2011, A&A 527, 122

HD 47129 O8III/I + O7.5 V/III

Non-radial pulsations

Mahy et al. 2011, A&A 525, 101

HD 46150 O5V – HD 46223 O4V – HD 46966 O8.5V

Red noise of physical but unclear origin
in the three hottest stars

Blomme et al. 2011, A&A 533, 4

OB and Be stars in the CoRoT EXO fields

A lot of B and Be pulsators identified thanks to

- tremendous work of classification
of the CoRoT light curves (talk Jonas Debosscher, Sarro et al. 2013, A&A 550, 120)
- spectra of VLT Flames LPs (PI Coralie Neiner)
~50 Be stars and ~200 B stars

Candidate B pulsators from IR Degroote et al. 2009, 506, 471

Study of the Be star CoRoT-ID 102761769 Emilio et al. 2010, A&A 522, 43

Spectroscopic analysis of 25 Be stars Semaan et al. 2013, A&A 551, 130

Hot stars in the whole CoRoT mission

Very successful!