

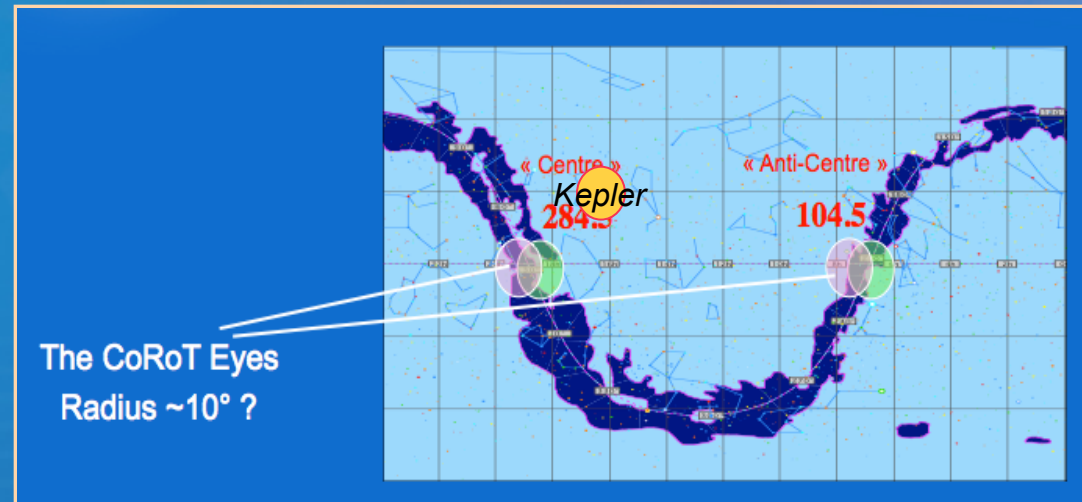


Ultra high precision
relative stellar photometry

Long duration
and continuity

What has been
already
observed ?

Global statistics



27 Scientific pointings

1976 days of scientific observations

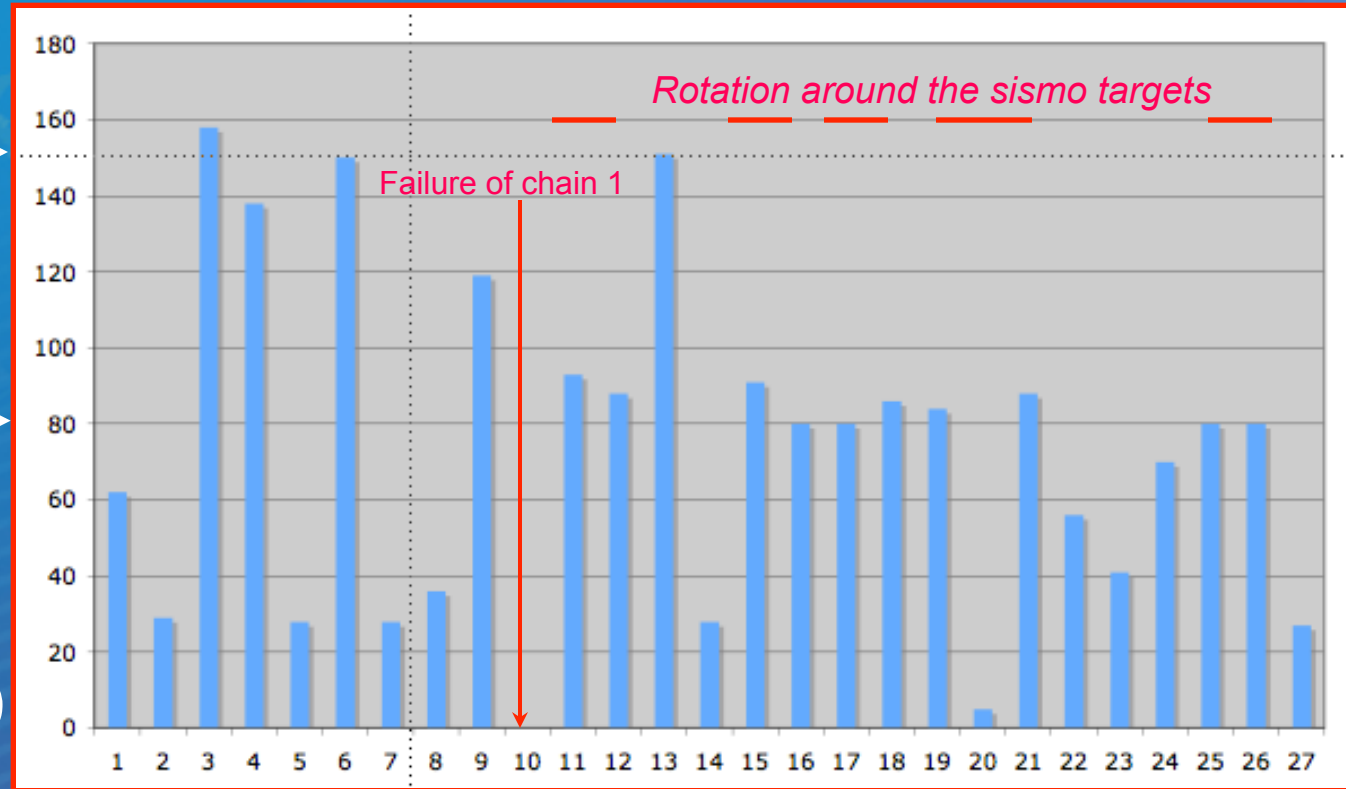
99% duty cycle (during observations)

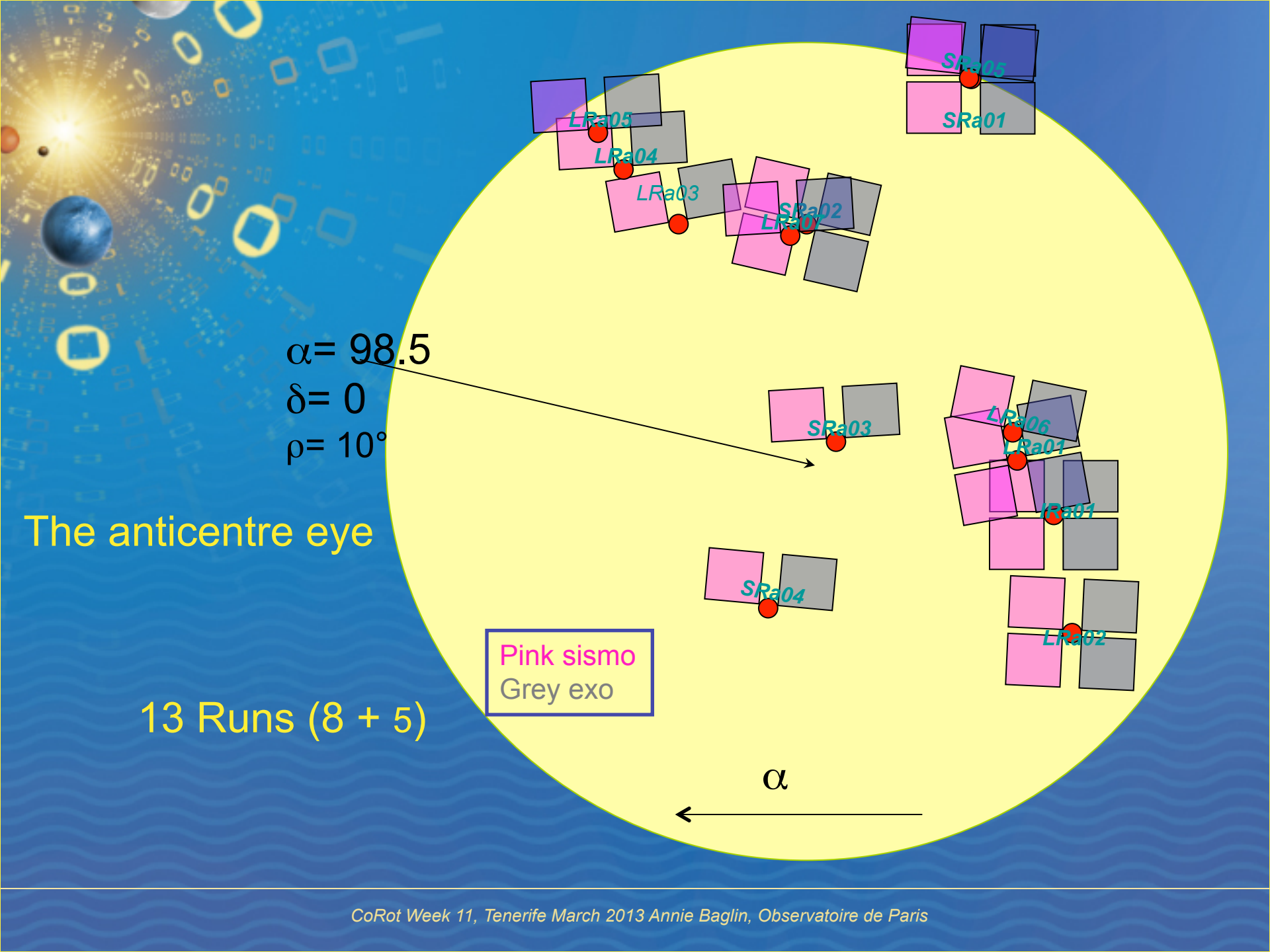
Duration of the Runs

Initial spec

new spec

9 short
18 long (≥ 80 days)





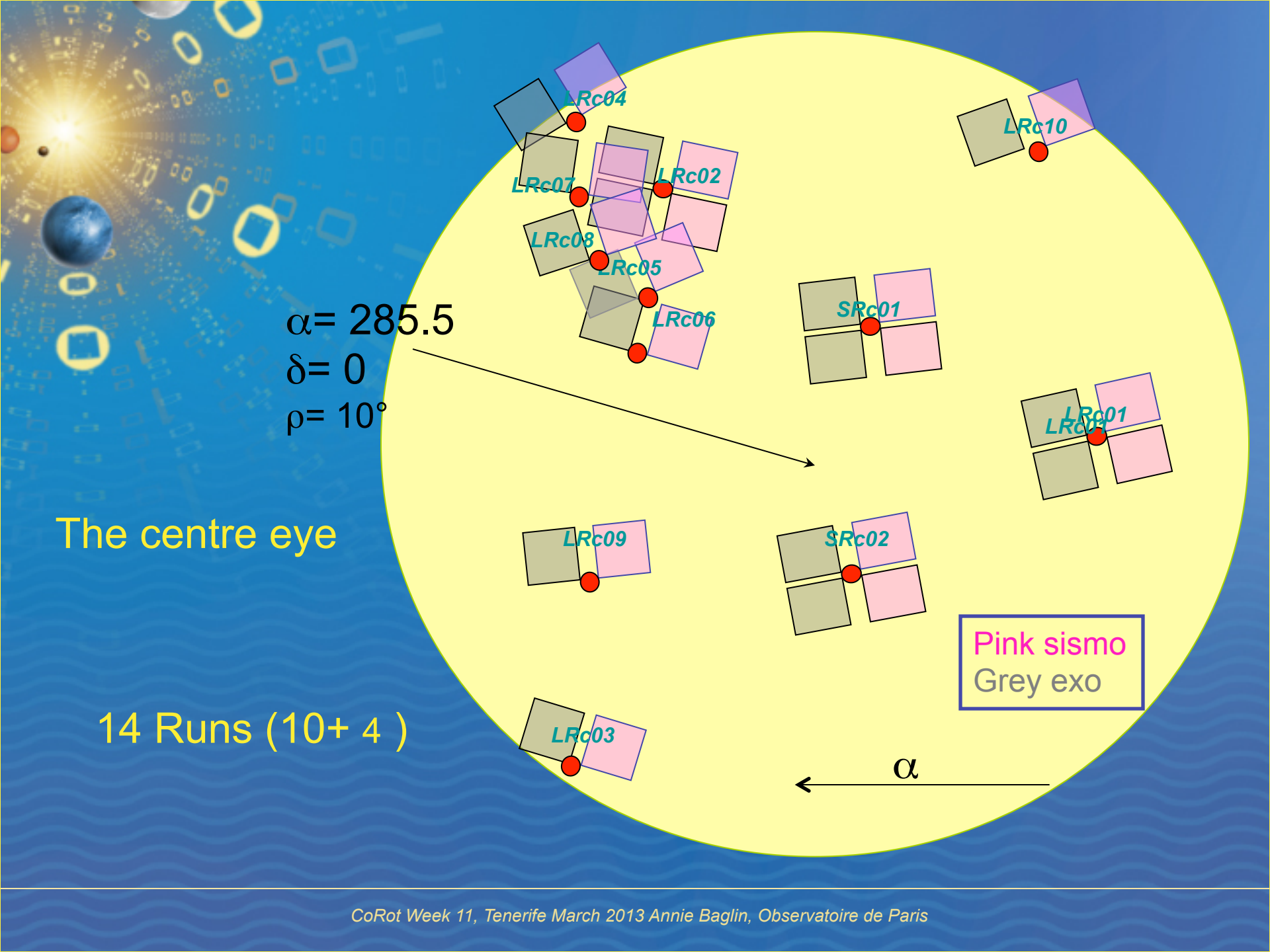
$\alpha = 98.5$
 $\delta = 0$
 $\rho = 10^\circ$

The anticentre eye

13 Runs (8 + 5)

Pink sismo
 Grey exo

α
 ←



$\alpha = 285.5$
 $\delta = 0$
 $\rho = 10^\circ$

The centre eye

14 Runs (10+ 4)

Pink sismo
Grey exo

α

The brighter stars in the seismology field

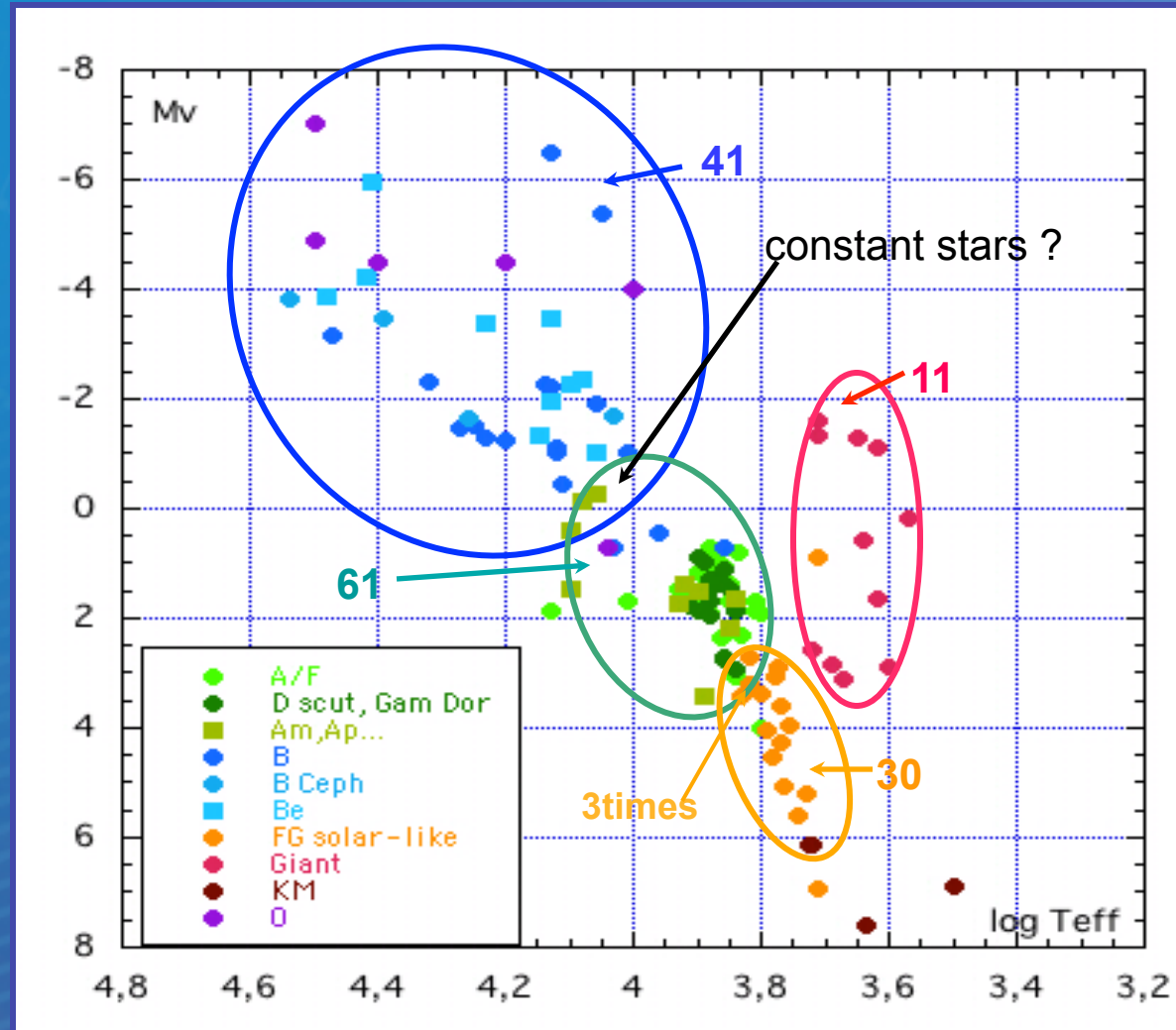
155 stars

* Spec: 5 + 45

* S/N < 1.1 photon

Fulfill the specification

- | | |
|-------------|--------------------|
| Calibration | |
| * Teff | HR spectro + Tgmet |
| | Strömgren photom |
| | |
| * Mv | parallax |
| | Strömgren photom |
| | IR/SED |



The fainter stars

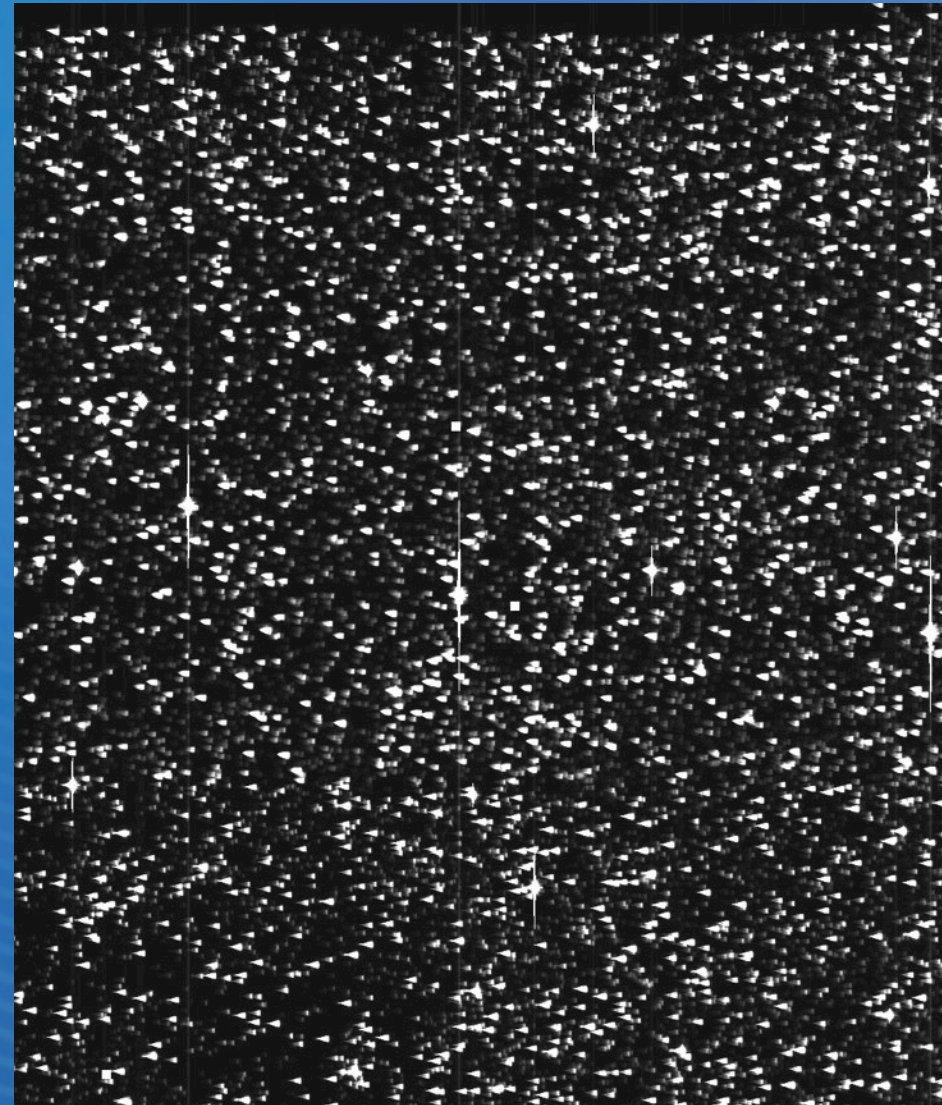
153 000 stars

$10 < R < 16$

112 000 in « long runs »
(> 80 days)

* $S/N \sim 10^{-3}$ in 1 hour at $R=15.5$
slightly below the specification $7 \cdot 10^{-4}$

* Dwarfs: 40 % 61 000
43 000 in long runs
below the specification.....60 000!



Exoplanet hunting

145 000 CdL treated

3472 detected transits
529 candidates.

After FU 211 unresolved

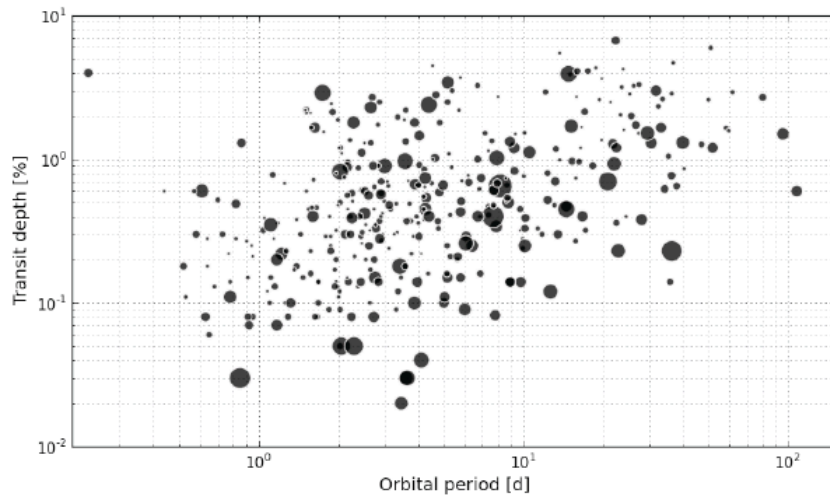


Figure 3: The period and depth of CoRoT planetary candidates (courtesy A. Santerne). The size of the symbols indicates the apparent luminosity of the parent star (small meaning faint).

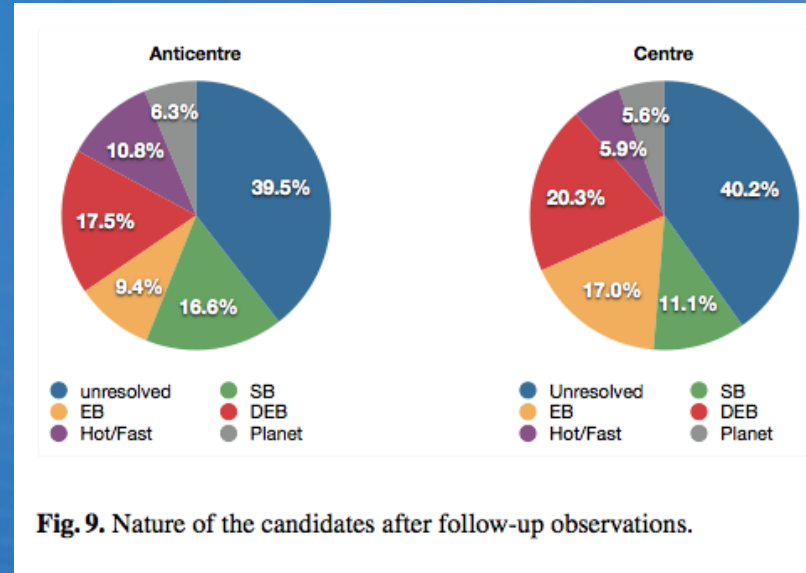


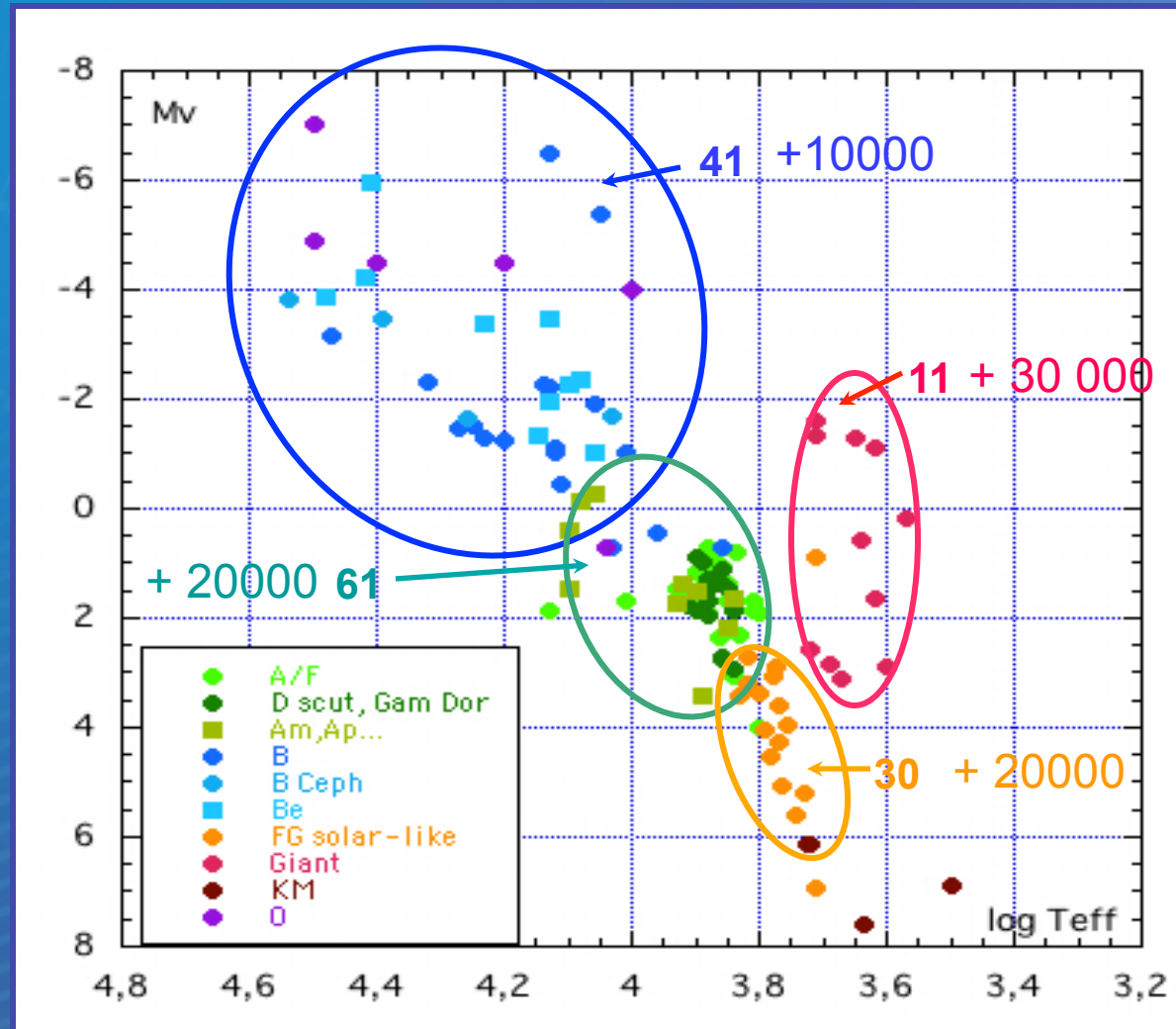
Fig. 9. Nature of the candidates after follow-up observations.

32 fully characterised planets.. + ?

Stellar physics in the exoplanet field

Statistical studies

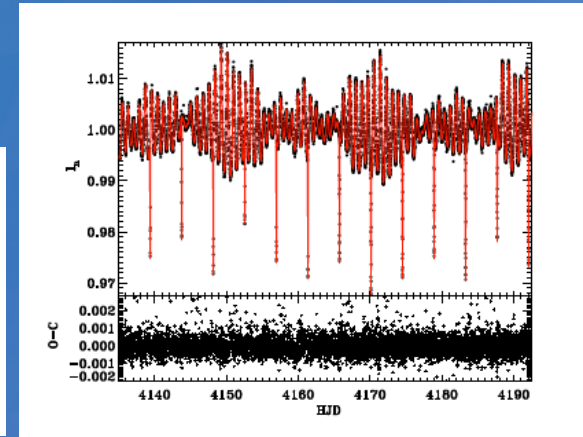
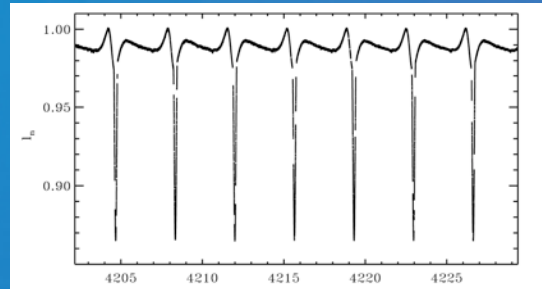
Classification
spectral
variability



Specific objects

* Eclipsing binaries

30% of alarms

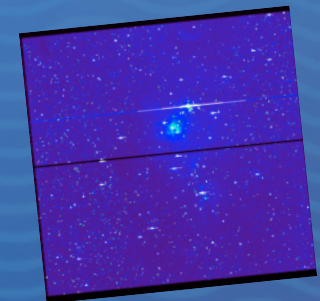


* Young clusters,
another CoRoT niche

6



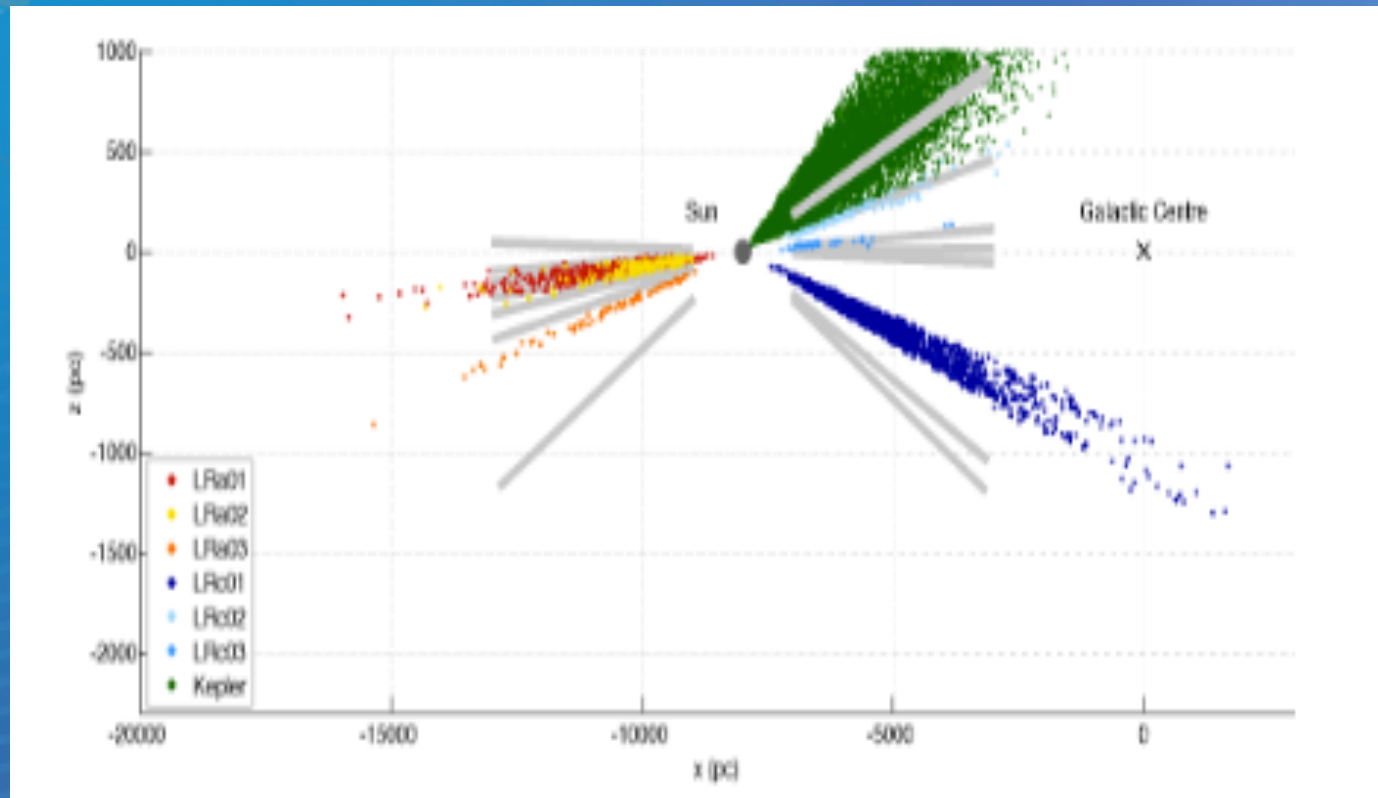
NGC 2264,
observed twice



Galactic structure

Thanks to the calibration of seismic indexes of Red Giants

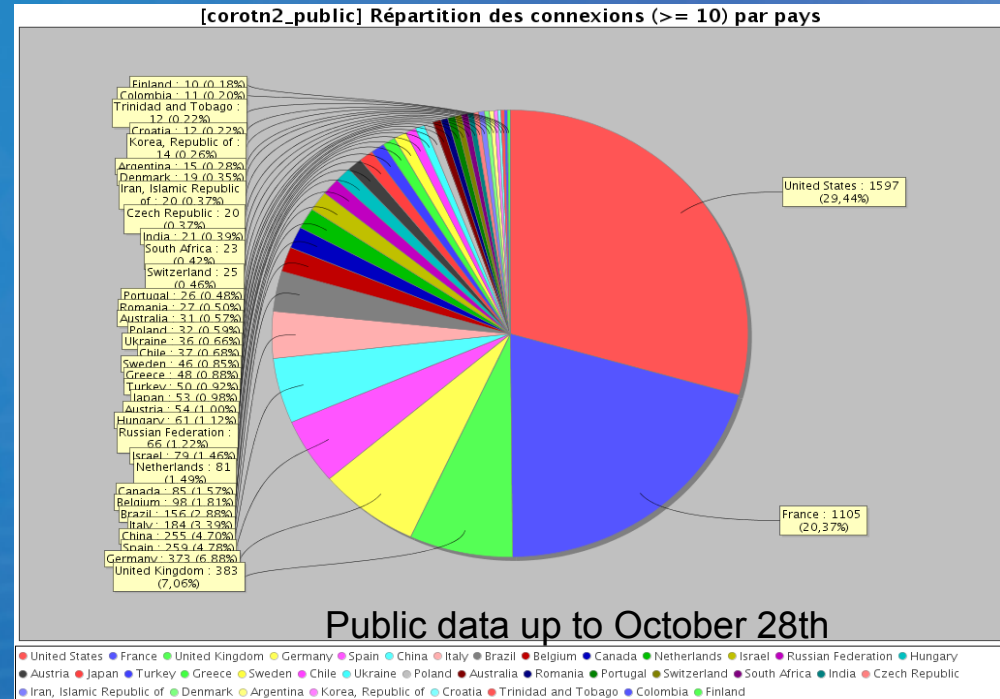
Distance, mass, age



30 000 RG up to 10 Kpc

Run	bloc	uratio	Driver	Driver	Driver	secondary targets	Dwarfs	planets	OAB	RG	part targ
		(days)	exo	sismo	other		<16 c<0.3			phot	EBs clusters
IRa01	1452.20	62	exo	49933		dScut, 2EB, Be, Ap	5328	1b,4b	~1500	1458	6
SRc01	1503.6	29		175726		2dScut, 2EB	3754	0	60		
LRc01	448.8	158	exo	180642		dScut, 2sollike	4268	2b,3b,8b,+1	239	3988	5*
LRa01	1571.8	138	exo	49933		GamDor, 2Be,2Ap	5787	5b,7b,12b, 21b	5000	1698	Dolitze 25 (37*)+ 18 WD cand
SRa01	1607.1	28			NGC 2264	GamDor, Ap	8189 all	in progress			NGC2264
LRc02	1412.13	150	exo	171834		dScut, Ap	3664	6b,9b,11b,22b, 26b	60	3234	22*(B/Be)
SRc02	1640.6	28		174532		lam boo, HgMn	11500 all	0	30		14 (B/Be)
SRa02	1579.1	36	46375	O stars		2MIII	11 500 all	15b	316		NGC 2244 in sismo
LRa02	1338.12	119	exo	52265		dScut, EB, 3Be, Ap	5210	13b, 14b, 24b	647	1481	3
stop of chain 1, march 9th 2009											
LRc03	1673.8	93	exo			vis Bin	3465	16b, 17b		1955	
LRc04	1704.10	88	exo			EB(169689), 3 GV	3639		1049	576	V922Oph
LRa03	440.10	151		43587		dScut, B3IV	3162		109+1	755	NGC 2186 (45)+ D Scut
SRa03	1720.10	28			SdB	EB, B8I	1774	19b,18b,20b	312		7* (3B)
LRc05	1731.18	91	exo	170580		dScut, B5, Ap, K5	1048	23b	252	2148	2*
LRc06	1731.22	80	exo	170580		dScut, B5, Be	1598		6 + 38	2205	IC 4756 (46) +2*
LRa04	1787.3	80	exo	42618		Be, M	2301			660	
LRa05	1786.9	86	exo	42618		d scut, B1V, G0	2558			664	
LRc07	1808.12	84	exo	NGC 6633		B8III	2238	30b,		3722	
SRc03	1707.4	5	corot 9								
LRc08	1808.9	88	exo	NGC 6633		B III	1900	27bn 28b, 29b		1525	
SRa04	1820.5	56			HgMn	B2V	4162	31b, 32b	267		NGC 2232
SRa05	1818.10	41			NGC 2264	5 reobs from SRa01	848	in progress	821		NGC2264
LRa06	1831.3	70	CoRoT 7			49933+	3408	7b,12b, 21b		1099	Dolitze 25 (1)
LRc09	1858.0	80	179079	179079		Be	3094		558	3200	
LRc10	1886.9	80			169689	V 585 Oph M6	3600		1672		
LRa07	1897.5	20+7	46375	O stars		MIII	1867		324	976	
stop of chain 2 November 2nd 2012											

Data downloads and publications



- Data acquisition end of the run t_0
- Data delivery $\leq t_0 + 0.5 \text{ y}$
- First data analysis $\geq t_0 + 1.5 \text{ y}$
- First interpretations $\geq t_0 + > 3 \text{ y}$

Papers with CoRoT in the title (12/03/13)
 entries in ADS 679
 70 % in class A journals 500



What has been analysed

and

What has been interpreted?

What remains

To be done?