

SC36-DR3

An Observing programme for the extension (EM, CM, AB)

May 15th 2010

Taking into account the priorities as defined in the « Mission extension document » and the different fields already proposed, Eric and Claire have examined the quality of the different fields.

In each direction, fields that contain at least one « interesting » seismo or exo target have been looked at.

They are divided in categories

- solar like stars
- red giants
- red giants in clusters
- O stars
- B stars
- Hg Mn stars
- Open clusters
- Revisit planet host stars
- Revisit Be star

The different tables propose 4 columns

* pos = indicative center of the exo CCD (shifted by $+1.4^\circ$ from seismo star coordinates, except when cluster in the exo field)

* cond = criteria for star counting

R:11-16 = all stars within $\pm 0.7^\circ$ with $11 < \text{magnitude } R < 16$

R:11-16 + dwarf = all "dwarfs" within $\pm 0.7^\circ$ with $11 < \text{magnitude } R < 16$

very simple criterium for dwarf property: $J-K < 0.8$

* cnt = number of possible exo targets

* comment

```
-----+-----+-----+-----
pos   |  cond   | cnt |  comment   |
-----+-----+-----+-----
```

1- Centre fields

all proposed field have btw 5000 and 58000 stars per CCD; 2000 to 30000 dwarfs.

bad fields have < 3000 or > 30000 dwarfs per CCD in the line R:11-16 + dwarf

* SOLAR LIKE STARS

```
-----+-----+-----+-----
272.80 +04.65 | R:11-16      | 10304 | HD 165401           | Bad exo field
272.80 +04.65 | R:11-14      | 1973 | strong gradient: South better
272.80 +04.65 | R:11-16 + dwarf | 9227
272.80 +04.65 | R:11-14 + dwarf | 1492
-----+-----+-----+-----
285.55 +04.27 | R:11-16      | 4976 | HD 175726
```

285.55 +04.27 | R:11-14 | 848 | **bad field exo**
285.55 +04.27 | R:11-16 + dwarf | 2286
285.55 +04.27 | R:11-14 + dwarf | 606

-----+-----+-----+-----
272.96 -04.75 | R:11-16 | 7614 | **HD 165438**
272.96 -04.75 | R:11-14 | 980 | **bad field exo**
272.96 -04.75 | R:11-16 + dwarf | 2526
272.96 -04.75 | R:11-14 + dwarf | 381

-----+-----+-----+-----
276.42 -09.58 | R:11-16 | 16795 | **HD 168443 + 2 planets !**
276.42 -09.58 | R:11-14 | 2810
276.42 -09.58 | R:11-16 + dwarf | 10400
276.42 -09.58 | R:11-14 + dwarf | 1925

**poor sismo field
interest for the planets ?**

* nearby RED GIANTS

-----+-----+-----+-----
273.85 +03.20 | R:11-16 | 11136 | **HD 166284**
273.85 +03.20 | R:11-14 | 1981
273.85 +03.20 | R:11-16 + dwarf | 8794
273.85 +03.20 | R:11-14 + dwarf | 1316

rich sismo field

-----+-----+-----+-----
294.40 +07.48 | R:11-16 | 18072 | **HD 184013**
294.40 +07.48 | R:11-14 | 3244
294.40 +07.48 | R:11-16 + dwarf | 14628
294.40 +07.48 | R:11-14 + dwarf | 2149

not observable

-----+-----+-----+-----
294.77 +08.22 | R:11-16 | 12163 | **HD 184297**
294.77 +08.22 | R:11-14 | 2138
294.77 +08.22 | R:11-16 + dwarf | 9173
294.77 +08.22 | R:11-14 + dwarf | 1312

not observable

* RED GIANTS IN CLUSTERS

-----+-----+-----+-----
278.21 +06.50 | R:11-16 | 13966 | **NGC 6633**
278.21 +06.50 | R:11-14 | 2432
278.21 +06.50 | R:11-16 + dwarf | 9088
278.21 +06.50 | R:11-14 + dwarf | 1334

3 to 4 RG

-----+-----+-----+-----
282.77 -06.27 | R:11-16 | 50326 | **NGC 6705**
282.77 -06.27 | R:11-14 | 7168 | **too much contamination**
282.77 -06.27 | R:11-16 + dwarf | 24409
282.77 -06.27 | R:11-14 + dwarf | 3302

* O STARS

-----+-----+-----+-----
274.42 +06.85 | R:11-16 | 10500 | **HD 166802**
274.42 +06.85 | R:11-14 | 1952
274.42 +06.85 | R:11-16 + dwarf | 9348
274.42 +06.85 | R:11-14 + dwarf | 1475

poor sismo field

282.32 -07.35 | R:11-16 | 58369 | **HD 172275**
282.32 -07.35 | R:11-14 | 8174 | **too much contamination**
282.32 -07.35 | R:11-16 + dwarf | 29828
282.32 -07.35 | R:11-14 + dwarf | 4058

-----+-----+-----+-----

278.71 -08.55 | R:11-16 | 16126 | **BD -084617**
278.71 -08.55 | R:11-14 | 2574
278.71 -08.55 | R:11-16 + dwarf | 9021
278.71 -08.55 | R:11-14 + dwarf | 1509

poor sismo field

-----+-----+-----+-----

283.25 -09.30 | R:11-16 | 40530 | **HD 173783**
283.25 -09.30 | R:11-14 | 6181 | **too much contamination**
283.25 -09.30 | R:11-16 + dwarf | 25213
283.25 -09.30 | R:11-14 + dwarf | 3178

*** B STARS**

-----+-----+-----+-----

279.97 -04.80 | R:11-16 | 28806 | **HD 171305**
279.97 -04.80 | R:11-14 | 4631
279.97 -04.80 | R:11-16 + dwarf | 15802
279.97 -04.80 | R:11-14 + dwarf | 2665

*** HgMn B STARS**

-----+-----+-----+-----

283.09 -06.68 | R:11-16 | 49761 | **HD 173673**
283.09 -06.68 | R:11-14 | 7254 | **too much contamination**
283.09 -06.68 | R:11-16 + dwarf | 25799
283.09 -06.68 | R:11-14 + dwarf | 3501

*** REVISIT LRc02 (with corot-9b in the exo field)**

-----+-----+-----+-----

280.78 +06.20 | R:11-16 | 14049
280.78 +06.20 | R:11-14 | 2310
280.78 +06.20 | R:11-16 + dwarf | 6985
280.78 +06.20 | R:11-14 + dwarf | 1246

DATES FOR REVISITS OF COROT-9b (2-3 day duration)

20-22 SEP 2010 (probably impossible)

03-05 JUL 2011 (median priority)

06-08 OCT 2011 (top priority)

18-20 JUL 2012 (median priority)

21-23 OCT 2012 (top priority)

29 APR-01 MAY 2013 (just before switching off!)

Anticenter fields

* cnt : all proposed field have btw 2000 and 9500 stars per CCD; 1000 to 8000 dwarfs.
bad fields have < 3000 or > 7000 dwarfs per CCD in the line R:11-16 + dwarf

* SOLAR LIKE STARS

91.90 +10.60 R:11-16 3773 HD 42807	N of dwarfs ?
91.90 +10.60 R:11-14 828	
91.90 +10.60 R:11-16 + dwarf 3261	
91.90 +10.60 R:11-14 + dwarf 670	
-----+-----+-----+-----	
91.60 +06.76 R:11-16 6629 HD 42618	very interesting !
91.60 +06.76 R:11-14 1418 best choice	
91.60 +06.76 R:11-16 + dwarf 6031	
91.60 +06.76 R:11-14 + dwarf 1186	
-----+-----+-----+-----	
96.68 +04.85 R:11-16 5813 HD 46241	
96.68 +04.85 R:11-14 1378	
96.68 +04.85 R:11-16 + dwarf 4612	
96.68 +04.85 R:11-14 + dwarf 1075	
-----+-----+-----+-----	
108.55 +07.13 R:11-16 6533 HD 57006	sismo quite poor
108.55 +07.13 R:11-14 1433	
108.55 +07.13 R:11-16 + dwarf 6352	
108.55 +07.13 R:11-14 + dwarf 1368	

* nearby RED GIANTS

92.07 -03.73 R:11-16 4309 HD 43023	
92.07 -03.73 R:11-14 1018	
92.07 -03.73 R:11-16 + dwarf 3918	
92.07 -03.73 R:11-14 + dwarf 856	
-----+-----+-----+-----	
98.01 +02.70 R:11-16 5880 HD 47220	rich sismo field
98.01 +02.70 R:11-14 1365 best choice	
98.01 +02.70 R:11-16 + dwarf 4614	
98.01 +02.70 R:11-14 + dwarf 1097	
-----+-----+-----+-----	
88.80 +02.90 R:11-16 2026 HD 40726	
88.80 +02.90 R:11-14 409 bad field exo	
88.80 +02.90 R:11-16 + dwarf 1181	
88.80 +02.90 R:11-14 + dwarf 237	

* RED GIANTS IN CLUSTERS

104.52 +06.43 R:11-16 8596 Berkeley 32	poor sismo field
104.52 +06.43 R:11-14 1811	
104.52 +06.43 R:11-16 + dwarf 8223	
104.52 +06.43 R:11-14 + dwarf 1643	

-----+-----+-----+-----
 97.41 +06.82 | R:11-16 | 8563 | **NGC 2236**
 97.41 +06.82 | R:11-14 | 1841
 97.41 +06.82 | R:11-16 + dwarf | 7200
 97.41 +06.82 | R:11-14 + dwarf | 1484

in exo field, good in sismo

*** O STARS**

-----+-----+-----+-----
 103.61 -05.81 | R:11-16 | 8768 | **HD 52266**
 103.61 -05.81 | R:11-14 | 1906
 103.61 -05.81 | R:11-16 + dwarf | 7451
 103.61 -05.81 | R:11-14 + dwarf | 1673

-----+-----+-----+-----
 97.20 +02.53 | R:11-16 | 6250 | **HD 46573**
 97.20 +02.53 | R:11-14 | 1375 | **best choice (with HD 47220)**
 97.20 +02.53 | R:11-16 + dwarf | 4861
 97.20 +02.53 | R:11-14 + dwarf | 1062

-----+-----+-----+-----
 97.95 +06.13 | R:11-16 | 7623 | **HD 47129**
 97.95 +06.13 | R:11-14 | 1643 | best choice
 97.95 +06.13 | R:11-16 + dwarf | 6289
 97.95 +06.13 | R:11-14 + dwarf | 1338

can include the next one

-----+-----+-----+-----
 96.58 +04.93 | R:11-16 | 6075 | **HD 46150**
 96.58 +04.93 | R:11-14 | 1430
 96.58 +04.93 | R:11-16 + dwarf | 4832
 96.58 +04.93 | R:11-14 + dwarf | 1110

*** B STARS**

-----+-----+-----+-----
 98.07 +04.95 | R:11-16 | 5241 | **HD 47240**
 98.07 +04.95 | R:11-14 | 1349 | best choice
 98.07 +04.95 | R:11-16 + dwarf | 4294
 98.07 +04.95 | R:11-14 + dwarf | 1172

-----+-----+-----+-----
 99.64 +02.38 | R:11-16 | 7098 | **HD 48553**
 99.64 +02.38 | R:11-14 | 1530
 99.64 +02.38 | R:11-16 + dwarf | 5815
 99.64 +02.38 | R:11-14 + dwarf | 1194

*** HgMn B STARS**

-----+-----+-----+-----
 106.75 -00.55 | R:11-16 | 9556 | **HD 55362**
 106.75 -00.55 | R:11-14 | 2069
 106.75 -00.55 | R:11-16 + dwarf | 8851
 106.75 -00.55 | R:11-14 + dwarf | 1780

poor in sismo

-----+-----+-----+-----
 97.54 -01.08 | R:11-16 | 5774 | **HD 46886**
 97.54 -01.08 | R:11-14 | 1238
 97.54 -01.08 | R:11-16 + dwarf | 4459

poor in sismo

97.54 -01.08 | R:11-14 + dwarf | 911

-----+-----+-----+-----

96.21 -04.68 | R:11-16 | 6258 | **HD 45975**

poor in sismo

96.21 -04.68 | R:11-14 | 1322

96.21 -04.68 | R:11-16 + dwarf | 5672

96.21 -04.68 | R:11-14 + dwarf | 1115

-----+-----+-----+-----

97.98 -08.23 | R:11-16 | 5241 | **HD 47278**

interesting

97.98 -08.23 | R:11-14 | 1142

97.98 -08.23 | R:11-16 + dwarf | 4254

97.98 -08.23 | R:11-14 + dwarf | 841

*** REVISIT LRa01 (with corot-7b in the exo field) 40 to 50 days**

-----+-----+-----+-----

100.96 -01.06 | R:11-16 | 9479

cannot include 49330 in the sismo field

100.96 -01.06 | R:11-14 | 1992

100.96 -01.06 | R:11-16 + dwarf | 8049

100.96 -01.06 | R:11-14 + dwarf | 1635

December 2010 or January 2011

*** CLUSTERS**

-----+-----+-----+-----

100.27 +09.88 | R:11-16 | 5246 | NGC 2264 coord Spitzer

OK

100.27 +09.88 | R:11-14 | 1065

100.27 +09.88 | R:11-16 + dwarf | 3889

100.27 +09.88 | R:11-14 + dwarf | 837

-----+-----+-----+-----

97.97 +04.93 | R:11-16 | 5068 | NGC 2244

too many bright stars

97.97 +04.93 | R:11-14 | 1314

97.97 +04.93 | R:11-16 + dwarf | 4132

97.97 +04.93 | R:11-14 + dwarf | 1142