```
Python 3.7.10 (default, Jun 24 2020, 07:29:10)
[GCC 4.8.5 20150623 (Red Hat 4.8.5-39)] on linux2
Type "help", "copyright", "credits" or "license" for more information.
IPython 5.8.0 - An enhanced Interactive Python.

In [1]: run/usr/share/psychopy-plugins/Ratpack By Programmer HP 2 subset 3.py',wdir='/Users/josephparsons/
Users/josephparsons/Ian/wavemakh/bin/psychos
Gtk-Message: 14:29:11.

Class 0: 14
Class 1: 14
Class 2: 12147
Class 3: 12148
Class 4: 12149
Class 5: 12150
Class 6: 12151
Class 7: 1019
Class 8: 1020

Id: 42212
Obj: 12148
Mag: 12.00
Ra: 0.000
Dec: 0.000

Id: Stars 47387

Ra: Stars 5730

Mag: Stars 9258
Mag: Stars 10000
Mag: Stars 10000
Mag: Stars 10000

Dec: Stars 20000
Dec: Stars 20000
Dec: Stars 20000
Dec: Stars 12001

Obj: Stars 30618
Obj: Stars 30618
Obj: Stars 70245
Obj: Stars 70245

Mag: Stars 5218
Mag: Stars 7925
Mag: Stars 7925
Mag: Stars 7925

Ra: Stars 21268
Ra: Stars 21268
Ra: Stars 1019
Ra: Stars 1019

https://www.aavso.org/d/0/c/vspec/targets/special-programs/

Mvlgc: 19719

Lc_pts: 5381

Mvlgc: 19719

Mvlg_min: 2001
Mvlg_max: 2001
Mvlg_stream: 2710

Mvlgc: 19719

==========================================================================
==========================================================================

main_sequence: 525
subgiants: 0
subgiants: 18
main_giants: 0

Flat(n): ['0001.dat', '0002.dat', '0003.dat', '0004.dat', '0005.dat', '0006.dat', '0007.dat', '0008.dat', '0009.dat', '0010.dat', '0011.dat', '0012.dat', '0013.dat', '0014.dat', '0015.dat', '0016.dat', '0017.dat', '0018.dat', '0019.dat', '0020.dat', '0021.dat', '0022.dat', '0023.dat', '0024.dat', '0025.dat', '0026.dat', '0027.dat', '0028.dat', '0029.dat', '0030.dat', '0031.dat', '0032.dat', '0033.dat', '0034.dat', '0035.dat', '0036.dat', '0037.dat', '0038.dat', '0039.dat', '0040.dat', '0041.dat',
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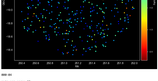
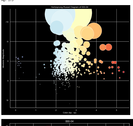
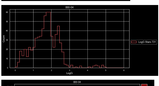


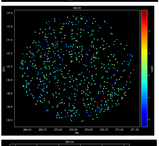
0008-00

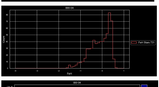
```
main_sequence: 11
turnoff: 2
subgiants: 3
red_giants: 11
red_clump: 10
red_giants - red_clump: 645

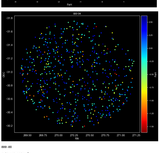
Gy: 0
Mhy: 0
Mhy: 154
Mz: 0
Mz: 10
```







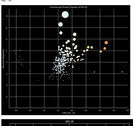


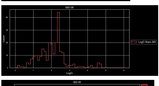


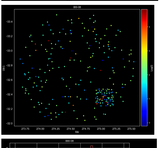
0009-00

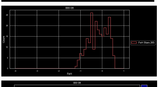
```
main_sequence: 8
turnoff: 2
subgiants: 2
red_giants: 213
red_clump: 192
red_giants - red_clump: 386

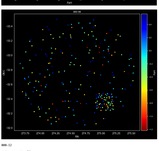
Gy: 0
Mhy: 0
Mhy: 87
Mz: 0
Mz: 10
```







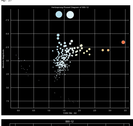


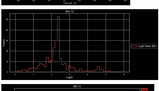


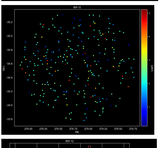
0009-10

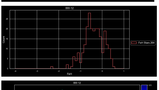
```
main_sequence: 10
turnoff: 2
subgiants: 2
red_giants: 208
red_clump: 194
red_giants - red_clump: 394

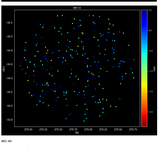
Gy: 0
Mhy: 0
Mhy: 154
Mz: 0
Mz: 10
```







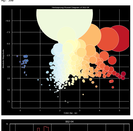


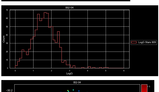


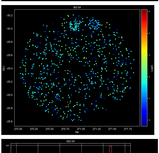
0010-00

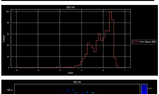
```
main_sequence: 9
turnoff: 2
subgiants: 3
red_giants: 86
red_clump: 82
red_giants - red_clump: 643

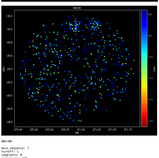
Gy: 0
Mhy: 0
Mhy: 87
Mz: 0
Mz: 10
```







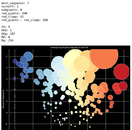


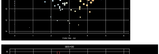


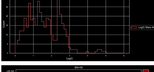
0011-00

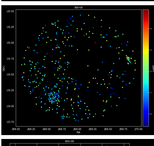
```
main_sequence: 7
turnoff: 2
subgiants: 4
red_giants: 8
red_clump: 10
red_giants - red_clump: 398

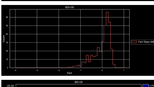
Gy: 0
Mhy: 0
Mhy: 87
Mz: 0
Mz: 10
```

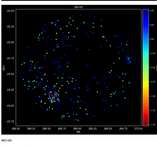






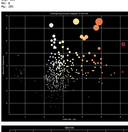


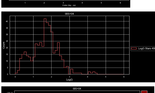


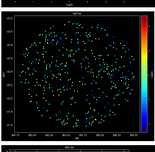


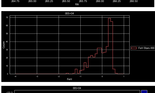
005-00

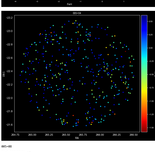
```
main_sequence= 4
turboFit= 1
subgalactic= 0
rot_gamma= 0.5
rot_clump= 27
rot_gamma = rot_clump= 437
Vis= 4
Mag= 0.5
Mass= 0.5
Mg= 0
Mm= 0.5
```





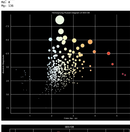


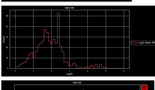


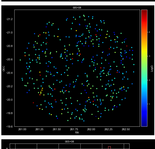


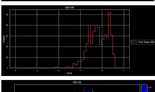
007-00

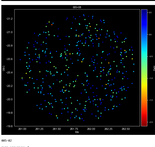
```
main_sequence= 15
turboFit= 1
subgalactic= 1
rot_gamma= 963
rot_clump= 0
rot_gamma = rot_clump= 480
Vis= 0
Mag= 1
Mass= 0.5
Mg= 0.5
Mm= 0.5
```





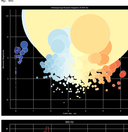


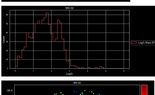


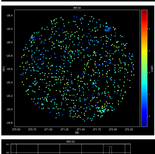


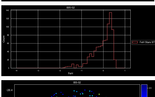
009-00

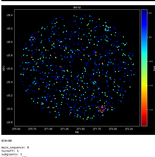
```
main_sequence= 4
turboFit= 1
subgalactic= 1
rot_gamma= 963
rot_clump= 0
rot_gamma = rot_clump= 876
Vis= 0
Mag= 0
Mass= 0.5
Mg= 0.5
Mm= 0.5
```





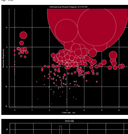


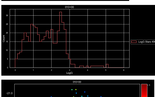


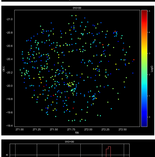


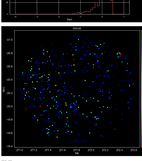
010-00

```
main_sequence= 0
turboFit= 1
subgalactic= 1
rot_gamma= 963
rot_clump= 0
rot_gamma = rot_clump= 443
Vis= 0
Mag= 0
Mass= 0.5
Mg= 0.5
Mm= 0.5
```





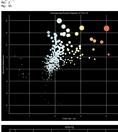


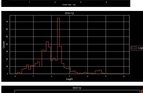


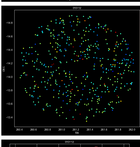
SCH-11

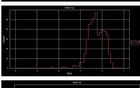
```
main_sequence: 15
subgiants: 0
red_giants: 0
red_giants: 0.0
red_giants: 0
red_giants + red_clump: 379

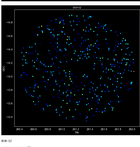
Fe: 0
Mg: 0
Mg: 293
Ne: 0
Ne: 0
```







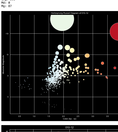


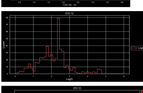


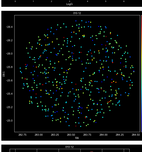
SCH-12

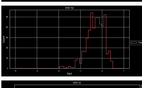
```
main_sequence: 18
subgiants: 0
red_giants: 0
red_giants: 0.0
red_giants: 0
red_giants + red_clump: 500

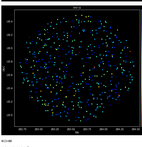
Fe: 0
Mg: 0
Mg: 0
Ne: 0
Ne: 0
```







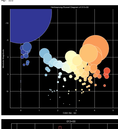


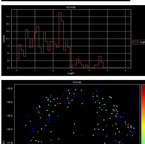


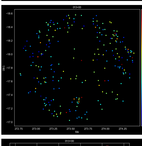
SCI-08

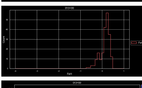
```
main_sequence: 8
subgiants: 0
red_giants: 1
red_giants: 0.0
red_giants: 0
red_giants + red_clump: 213

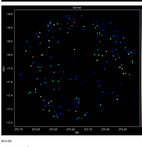
Fe: 0
Mg: 0
Mg: 0.0
Ne: 0
Ne: 0
```







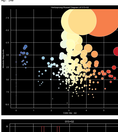


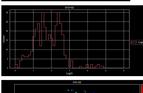


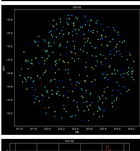
SCI-07

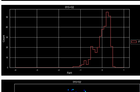
```
main_sequence: 7
subgiants: 0
red_giants: 0
red_giants: 0.0
red_giants + red_clump: 324

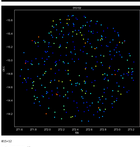
Fe: 0
Mg: 0
Mg: 0
Ne: 0
Ne: 0
```







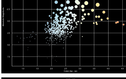


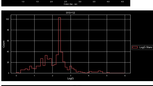


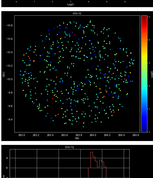
SCI-17

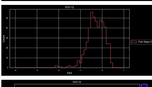
```
main_sequence: 12
subgiants: 0
red_giants: 0
red_giants: 0.0
red_giants: 0
red_giants + red_clump: 500

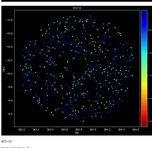
Fe: 0
Mg: 0
Mg: 0.0
Ne: 0
Ne: 0
```







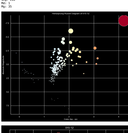


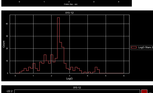


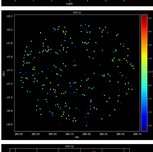
0C0-12

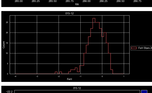
main_sequence: 0
turnoff: 1
subgiants: 1
red_giants: 20
rr_lyrae: 0
tot_points = red_clump: 100

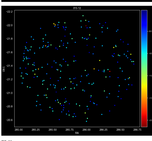
Vis: 0
Mag: 0
Mag: 100
Mv: 0
Mv: 0







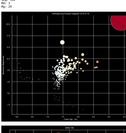


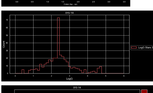


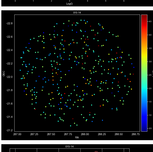
0C0-20

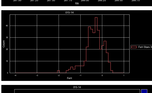
main_sequence: 22
turnoff: 1
subgiants: 1
red_giants: 254
rr_lyrae: 0
tot_points = red_clump: 399

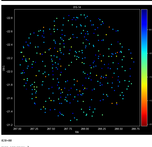
Vis: 0
Mag: 0
Mag: 39
Mv: 0
Mv: 0







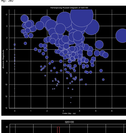


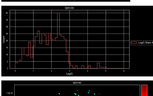


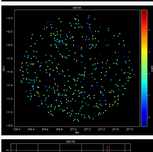
0C0-40

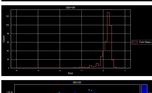
main_sequence: 2
turnoff: 1
subgiants: 1
red_giants: 416
rr_lyrae: 0
tot_points = red_clump: 422

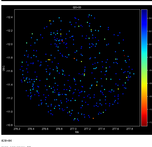
Vis: 0
Mag: 0
Mag: 43
Mv: 0
Mv: 0







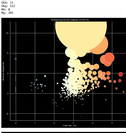


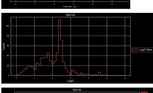


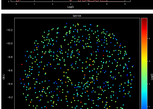
0C0-60

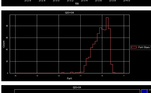
main_sequence: 10
turnoff: 1
subgiants: 0
red_giants: 0
rr_lyrae: 0
tot_points = red_clump: 539

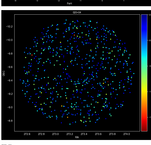
Vis: 0
Mag: 0
Mag: 53
Mv: 0
Mv: 0







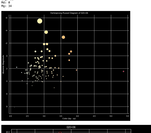


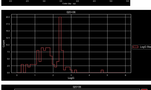


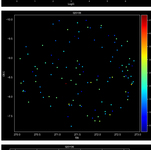
0230-08

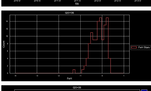
```
main_sequence: 1
hydrophil: 1
subgenomic: 0
rel_gene: 0.01
rel_clump: .06
rel_genic = rel_clump: .09

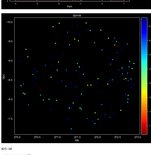
Dec: 0
Ops: 0
Ins: 0
Mut: 0
Rec: 0
```







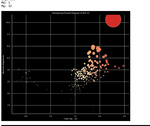


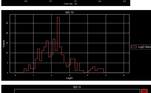


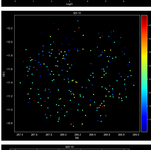
0231-10

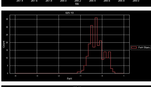
```
main_sequence: 12
hydrophil: 1
subgenomic: 0
rel_gene: .04
rel_clump: .20
rel_genic = rel_clump: .230

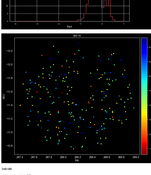
Dec: 0
Ops: 0
Ins: 0
Mut: .04
Rec: .01
```











0240-08

```
main_sequence: 17
hydrophil: 1
subgenomic: 0
rel_gene: .987
rel_clump: .987
rel_genic = rel_clump: .987

Dec: 0
Ops: .01
Ins: .01
Mut: .014
Rec: .01
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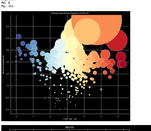
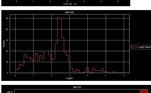
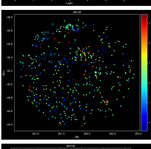
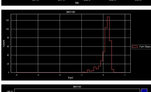
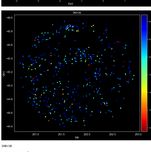






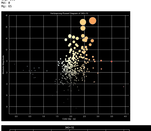


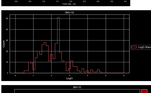


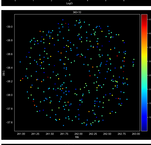
0240-08

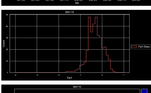
```
main_sequence: 0
hydrophil: 0
subgenomic: 0
rel_gene: .987
rel_clump: .987
rel_genic = rel_clump: .987

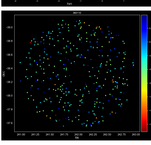
Dec: 0
Ops: 0
Ins: .014
Mut: .014
Rec: .01
```







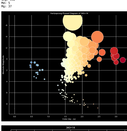


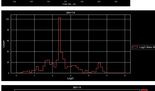


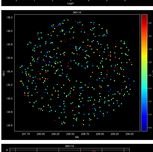
DOM:0

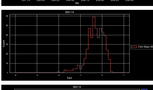
main_sequence: 07
hydrofrac: 0
subgeometry: 0
rock_density: 2
rock_porosity: 30
rock_permeability: 0
rock_grains: rock_clump: 011

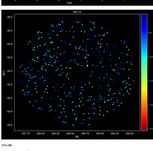
Dip: 12
Dip Dir: 0
Area: 30
Area: 30
No: 0







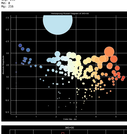


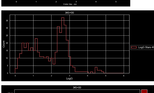


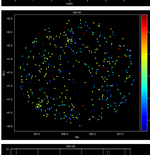
DOM:00

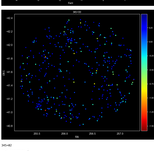
main_sequence: 10
hydrofrac: 0
subgeometry: 0
rock_density: 2
rock_porosity: 30
rock_permeability: 0
rock_grains: rock_clump: 434

Dip: 30
Dip: 30
Area: 43
Area: 43
No: 0





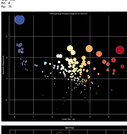


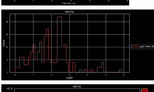


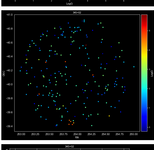
DOM:40

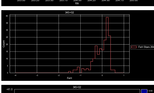
main_sequence: 9
hydrofrac: 0
subgeometry: 2
rock_density: 2
rock_porosity: 30
rock_permeability: 0
rock_grains: rock_clump: 214

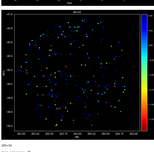
Dip: 12
Dip: 12
Area: 30
Area: 30
No: 0







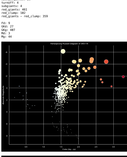


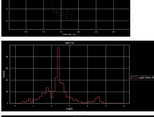


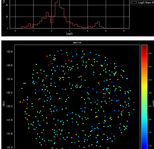
DOM:20

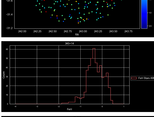
main_sequence: 25
hydrofrac: 0
subgeometry: 4
rock_density: 0
rock_porosity: 30
rock_permeability: 0
rock_grains: rock_clump: 359

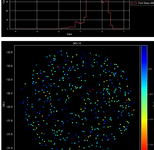
Dip: 30
Dip: 30
Area: 43
Area: 43
No: 0







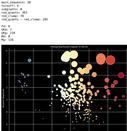


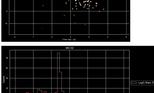


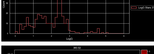
DOM:40

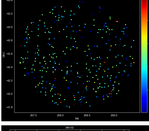
main_sequence: 18
hydrofrac: 0
subgeometry: 4
rock_density: 0
rock_porosity: 30
rock_permeability: 0
rock_grains: rock_clump: 205

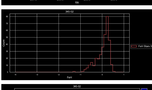
Dip: 0
Dip: 0
Area: 54
Area: 54
No: 54

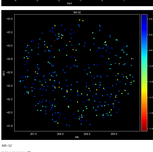








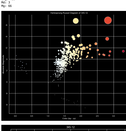


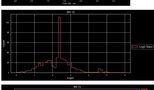


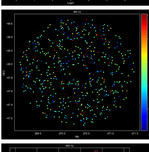
001-121

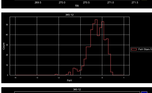
main_sequence: 10
subgroup: 0
subgroup: 0
red_giants: 998
red_giants: 0
red_giants: red_clump: 500

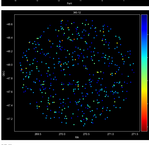
Dy: 0
Dz: 0
Mxy: 84
Mz: 0
Mq: 16







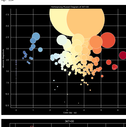


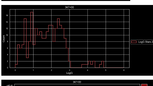


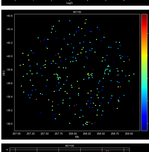
107-148

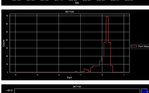
main_sequence: 5
subgroup: 0
subgroup: 0
red_giants: 213
red_giants: 0
red_giants: red_clump: 213

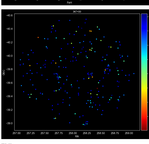
Dy: 0
Dz: 0
Mxy: 33
Mz: 0
Mq: 67







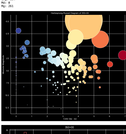


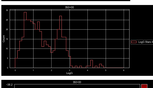


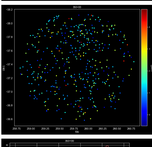
216-60

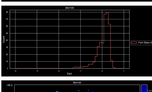
main_sequence: 5
subgroup: 0
subgroup: 0
red_giants: 38
red_giants: 0
red_giants: red_clump: 438

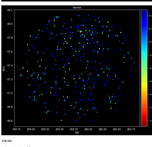
Dy: 0
Dz: 0
Mxy: 84
Mz: 0
Mq: 16







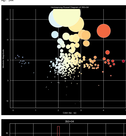


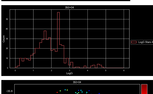


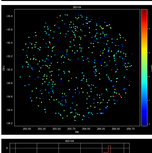
216-60

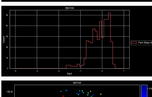
main_sequence: 10
subgroup: 0
subgroup: 0
red_giants: 38
red_giants: 0
red_giants: red_clump: 438

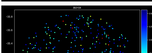
Dy: 0
Dz: 0
Mxy: 67
Mz: 0
Mq: 33

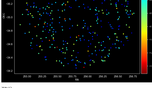








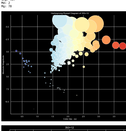


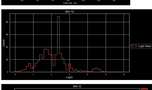


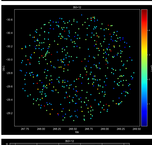
[58:1]

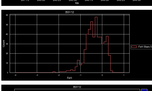
```
main_sequence: 25
turnoff: 0
subgiants: 0
red_giants: 62
red_clump: 387
red_giants - red_clump: 384

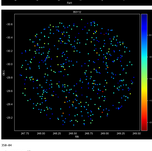
Vis: 12
Mag: 21
Mag: 18
Mag: 0
Mv: 18
```







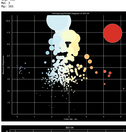


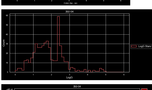


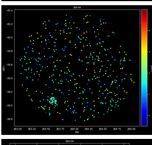
[58:0]

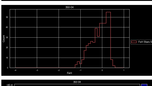
```
main_sequence: 12
turnoff: 0
subgiants: 0
red_giants: 48
red_clump: 433
red_giants - red_clump: 433

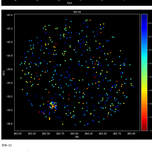
Vis: 5
Mag: 19
Mag: 18
Mv: 18
```







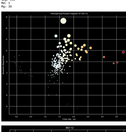


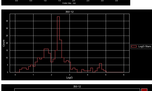


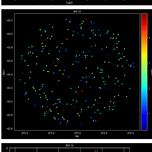
[58:1]

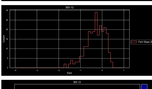
```
main_sequence: 10
turnoff: 0
subgiants: 0
red_giants: 241
red_clump: 195
red_giants - red_clump: 195

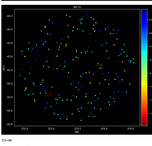
Vis: 8
Mag: 20
Mag: 19
Mv: 19
```







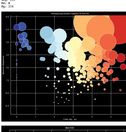


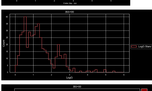


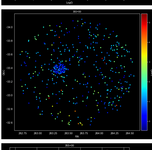
[58:0]

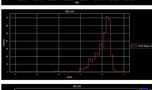
```
main_sequence: 9
turnoff: 0
subgiants: 0
red_giants: 525
red_clump: 495
red_giants - red_clump: 495

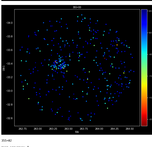
Vis: 12
Mag: 21
Mag: 19
Mv: 19
```







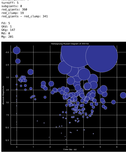


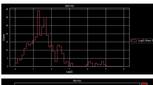


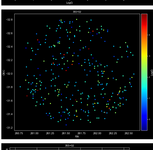
[58:0]

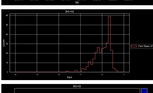
```
main_sequence: 9
turnoff: 0
subgiants: 0
red_giants: 542
red_clump: 39
red_giants - red_clump: 542

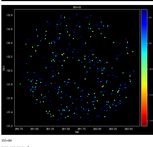
Vis: 5
Mag: 17
Mag: 17
Mv: 17
```







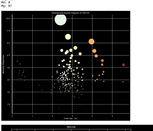


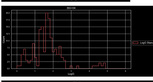


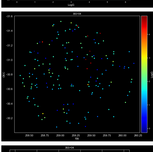
2D:46

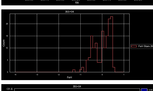
main_sequence: 7
turnoff: 0
subgiants: 8
red_giants: 82
red_clump: 10
red_giants - red_clump: 245

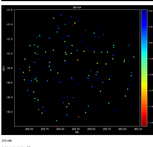
Vp: 0
Vbv: 0
Mbv: 0.4
Mv: 0
Mv: 0







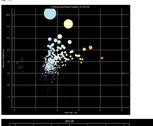


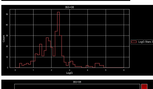


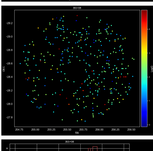
2D:48

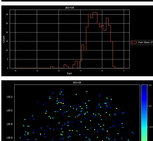
main_sequence: 13
turnoff: 0
subgiants: 0
red_giants: 87
red_clump: 10
red_giants - red_clump: 297

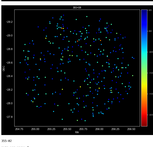
Vp: 0
Vbv: 0
Mbv: 0.4
Mv: 0
Mv: 0







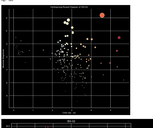


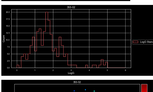


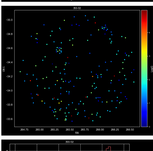
2D:49

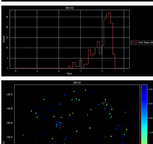
main_sequence: 9
turnoff: 0
subgiants: 0
red_giants: 91
red_clump: 10
red_giants - red_clump: 236

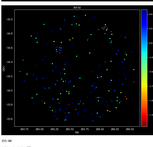
Vp: 0
Vbv: 0
Mbv: 0.4
Mv: 0
Mv: 0







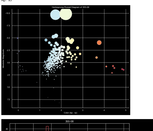


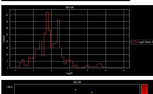


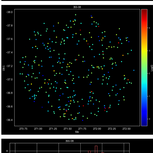
2D:50

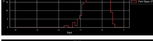
main_sequence: 18
turnoff: 0
subgiants: 0
red_giants: 362
red_clump: 10
red_giants - red_clump: 337

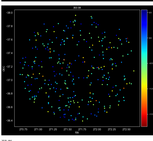
Vp: 0
Vbv: 0
Mbv: 0.4
Mv: 0
Mv: 0





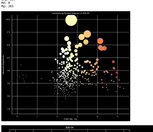


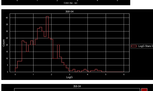


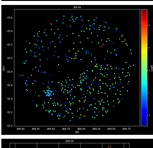


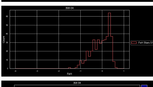

```
CEN-NH
mass_separator: 0
binsize: 1
total_mass: 1
num_galaxies: 300
num_bins: 300
total_points = num_clump: 470

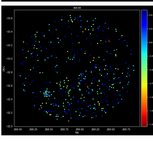
Xc: 0
Yc: 0
Rhp: 214
Mhp: 1
Mv: 60
```











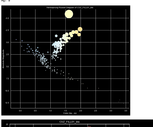

```
cos_phi= 0.965
****************************************************************
****************************************************************

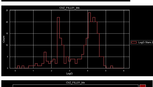
mass_separator: 1000
binsize: 500
total_mass: 1
num_galaxies: 3139

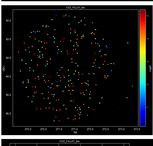
Profile: 'CFIG_FILLED_dra', 'CFIG_FILLED_dec', 'CFIG_FILLED_mv', 'CFIG_DMHS_dra',
'CFIG_DMHS_dec', 'CFIG_DMHS_mv', 'CFIG_DMHS_mv', 'CFIG_DMHS_mv',
'CFIG_DMHS_mv', 'CFIG_DMHS_mv', 'CFIG_DMHS_mv', 'CFIG_DMHS_mv',
'CFIG_DMHS_mv', 'CFIG_DMHS_mv', 'CFIG_DMHS_mv', 'CFIG_DMHS_mv',
'CFIG_DMHS_mv', 'CFIG_DMHS_mv', 'CFIG_DMHS_mv', 'CFIG_DMHS_mv',
'CFIG_DMHS_mv', 'CFIG_DMHS_mv', 'CFIG_DMHS_mv', 'CFIG_DMHS_mv',
****************************************************************
****************************************************************

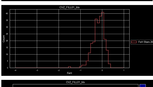
CFIG_FILLED_dra
mass_separator: 97
binsize: 1
total_mass: 1
num_galaxies: 93
num_bins: 93
total_points = num_clump: 89

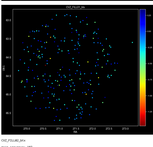
Xc: 0
Yc: 0
Rhp: 89
Mhp: 1
Mv: 5
```





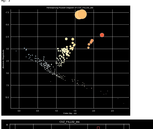


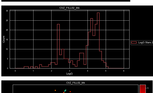


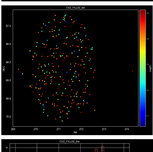


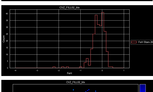

```
CFIG_FILLED_mv
mass_separator: 107
binsize: 1
total_mass: 1
num_galaxies: 99
num_bins: 99
total_points = num_clump: 90

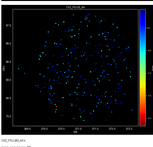
Xc: 0
Yc: 0
Rhp: 258
Mhp: 1
Mv: 7
```





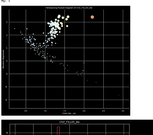


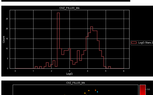


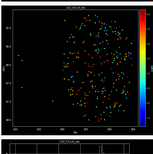


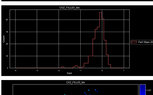

```
CFIG_FILLED_dra
mass_separator: 90
binsize: 1
total_mass: 1
num_galaxies: 121
num_bins: 121
total_points = num_clump: 84

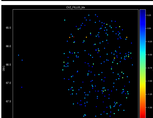
Xc: 0
Yc: 0
Rhp: 19
Mhp: 1
Mv: 1
```







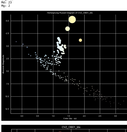


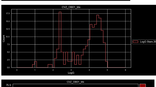


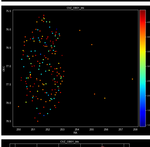
CCC_2004_2.cc

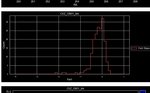
main_separation: 76
subgroups: 3
subgroups: 32
total_points: 212
total_points: 28
total_points - tot_filter: 125

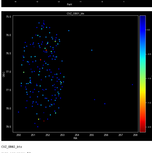
Cut: 20
Qbin: 40
Qbin: 20
Mag: 18
Mag: 0







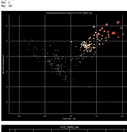


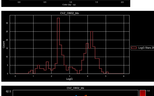


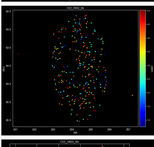
CCC_2004_2.cc

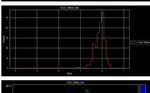
main_separation: 50
subgroups: 3
subgroups: 32
total_points: 212
total_points: 48
total_points - tot_filter: 165

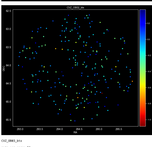
Cut: 40
Qbin: 40
Qbin: 20
Mag: 18
Mag: 0







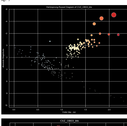


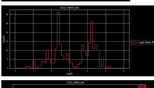


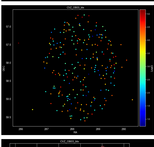
CCC_2004_2.cc

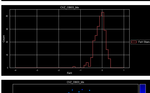
main_separation: 58
subgroups: 3
subgroups: 32
total_points: 212
total_points: 38
total_points - tot_filter: 112

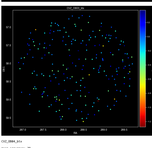
Cut: 30
Qbin: 40
Qbin: 20
Mag: 18
Mag: 0







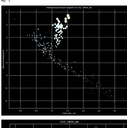


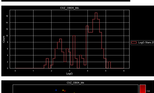


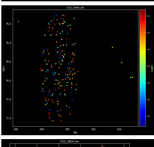
CCC_2004_2.cc

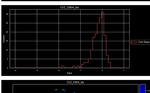
main_separation: 70
subgroups: 3
subgroups: 32
total_points: 212
total_points: 27
total_points - tot_filter: 134

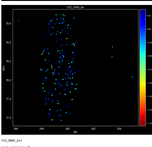
Cut: 20
Qbin: 40
Qbin: 20
Mag: 18
Mag: 0







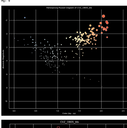


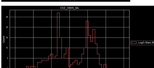


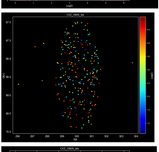
CCC_2004_2.cc

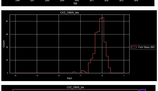
main_separation: 55
subgroups: 3
subgroups: 32
total_points: 212
total_points: 33
total_points - tot_filter: 130

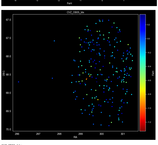
Cut: 30
Qbin: 40
Qbin: 20
Mag: 18
Mag: 0







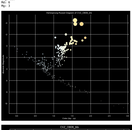


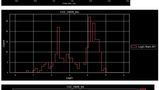


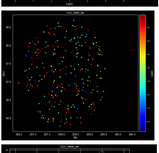
CIC_2008_pix

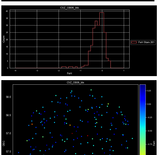
```
main_sequence: 60
turnoff: 58
subgiants: 72
red_giants: 217
rc_giants: 37
red_giants - rc_clump: 142

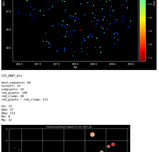
Gal: 32
Ext: 0
Mag: 179
Ref: 0
Rec: 0
```

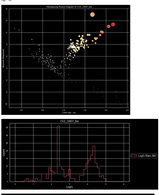








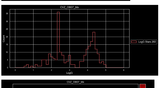


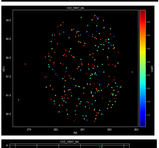


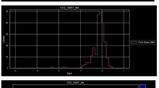
CIC_2007_pix

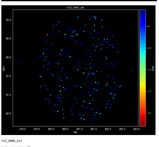
```
main_sequence: 50
turnoff: 55
subgiants: 72
red_giants: 185
rc_giants: 37
red_giants - rc_clump: 111

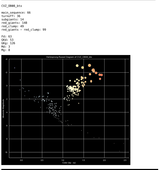
Gal: 31
Ext: 0
Mag: 17
Ref: 0
Rec: 0
```





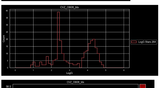


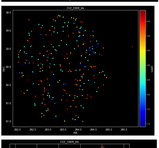


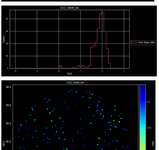
CIC_2006_pix

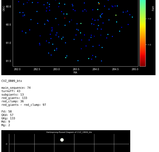
```
main_sequence: 56
turnoff: 58
subgiants: 72
red_giants: 214
rc_giants: 40
red_giants - rc_clump: 99

Gal: 31
Ext: 0
Mag: 179
Ref: 0
Rec: 0
```



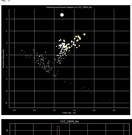


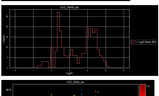


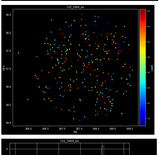
CIC_2005_pix

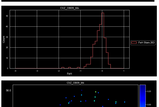
```
main_sequence: 70
turnoff: 61
subgiants: 72
red_giants: 220
rc_giants: 40
red_giants - rc_clump: 67

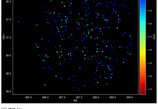
Gal: 30
Ext: 0
Mag: 17
Ref: 0
Rec: 0
```







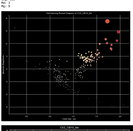


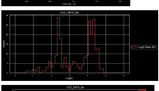


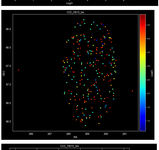
CIC_0004.pvo

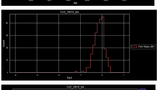
main_sequence: 70
turnoff: 61
subgiants: 52
giants: 43
red_giants: 34
red_clump: 46

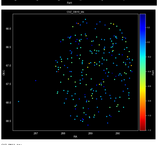
Sep: 32
Gal: 20
Mag: 19
Mu: 0







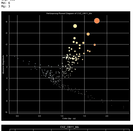


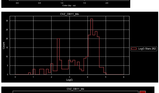


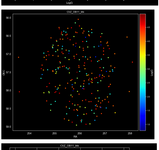
CIC_0003.pvo

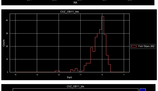
main_sequence: 90
turnoff: 81
subgiants: 72
giants: 63
red_giants: 54
red_clump: 64

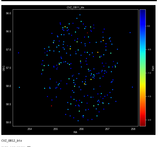
Sep: 32
Gal: 20
Mag: 19
Mu: 0







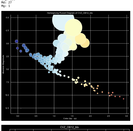


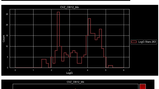


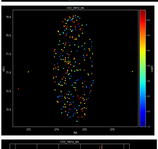
CIC_0002.pvo

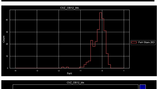
main_sequence: 80
turnoff: 71
subgiants: 62
giants: 53
red_giants: 44
red_clump: 53

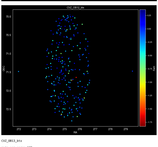
Sep: 40
Gal: 20
Mag: 23
Mu: 0







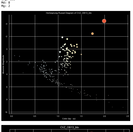


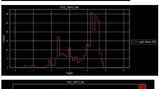


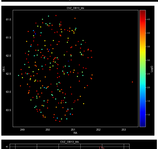
CIC_0001.pvo

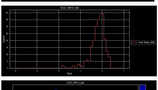
main_sequence: 100
turnoff: 91
subgiants: 82
giants: 73
red_giants: 64
red_clump: 76

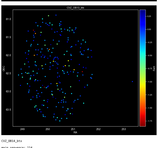
Sep: 40
Gal: 20
Mag: 19
Mu: 0







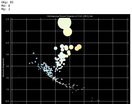


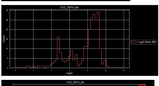


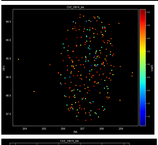
CIC_0000.pvo

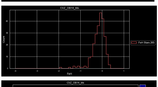
main_sequence: 110
turnoff: 101
subgiants: 92
giants: 83
red_giants: 74
red_clump: 78

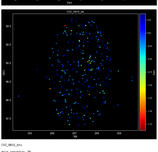
Sep: 32
Gal: 20
Mag: 19
Mu: 0







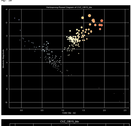


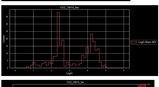


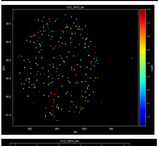
CSC_0816.pcx

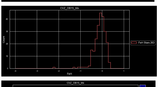
```
main_separator: 78
hotspot: 48
subgenerr: 12
subgenerr: 12
rel_clumpy: 40
rel_gravity = rel_clumpy: 102

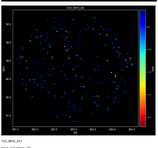
Dis: 80
Ddis: 80
Mag: 19
Dmag: 19
Mu: 0
```







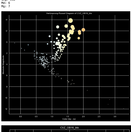


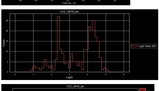


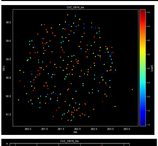
CSC_0818.pcx

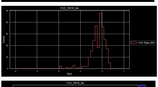
```
main_separator: 60
hotspot: 36
subgenerr: 36
subgenerr: 36
rel_clumpy: 20
rel_gravity = rel_clumpy: 98

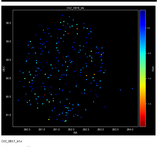
Dis: 80
Ddis: 80
Mag: 19
Dmag: 19
Mu: 0
```







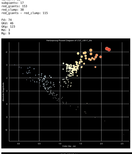


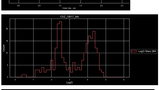


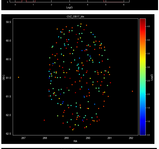
CSC_0817.pcx

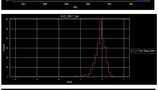
```
main_separator: 58
hotspot: 32
subgenerr: 32
subgenerr: 32
rel_clumpy: 18
rel_gravity = rel_clumpy: 115

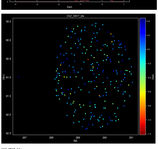
Dis: 80
Ddis: 80
Mag: 19
Dmag: 19
Mu: 0
```







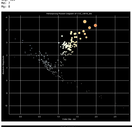


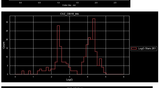


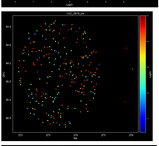
CSC_0819.pcx

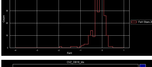
```
main_separator: 75
hotspot: 45
subgenerr: 15
subgenerr: 15
rel_clumpy: 37
rel_gravity = rel_clumpy: 81

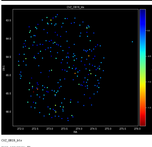
Dis: 80
Ddis: 80
Mag: 19
Dmag: 19
Mu: 0
```







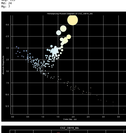


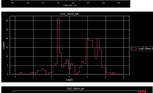


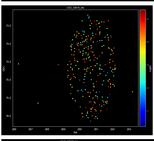
CSC_0016.pix

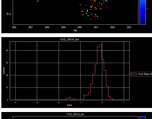
```
main_parameters 95
haloid 16
subhaloid 0
num_particles 124
num_dim 3
num_parts = num_trues= 88

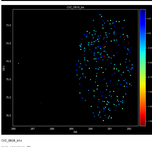
Cen: 50
Min: 23
Max: 77
Rad: 27
Ng: 8
```







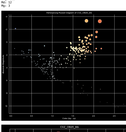


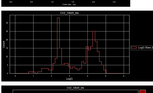


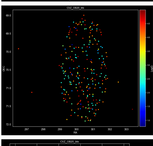
CSC_0018.pix

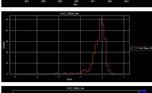
```
main_parameters 95
haloid 17
subhaloid 0
num_particles 124
num_dim 3
num_parts = num_trues= 95

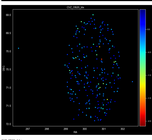
Cen: 49
Min: 23
Max: 73
Rad: 25
Ng: 8
```







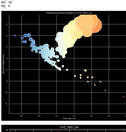


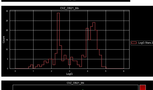


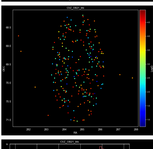
CSC_0021.pix

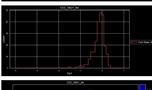
```
main_parameters 76
haloid 18
subhaloid 0
num_particles 94
num_dim 3
num_parts = num_trues= 91

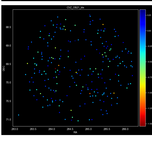
Cen: 35
Min: 25
Max: 45
Rad: 10
Ng: 8
```











Halo 17824

```
==========================================================
==========================================================
main_parameters 3870
haloid 17824
subhaloid 0
num_particles 911

Pos(x,y,z) [0000]=[ '0.04,0.0' '0.04,0.0' '0.04,0.0' '0.04,0.0' '0.04,0.0' '0.04,0.0' '0.04,0.0' '0.04,0.0'
  
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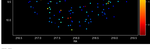
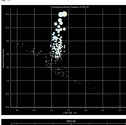
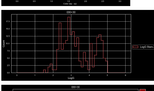


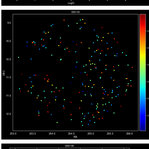
0240:00

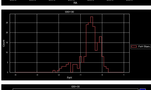
main_sequence: 52
subgiants: 0
red_giants: 0
red_giants: 100
red_giants: 0
red_giants + red_clump: 171

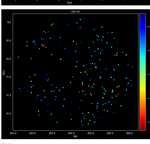
Sc: 0
Ser: 0
Ser: 100
Ser: 0
Ser: 0







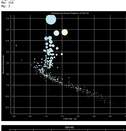


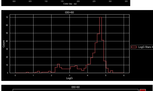


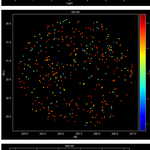
0240:00

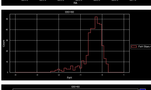
main_sequence: 268
subgiants: 0
subgiants: 32
red_giants: 0
red_giants: 0
red_giants + red_clump: 300

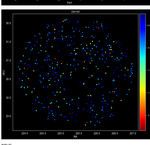
Sc: 0
Ser: 0
Ser: 100
Ser: 0
Ser: 0







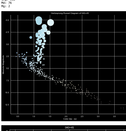


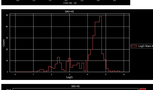


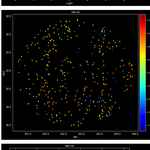
0240:00

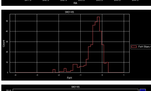
main_sequence: 217
subgiants: 0
subgiants: 0
red_giants: 0
red_giants: 0
red_giants + red_clump: 132

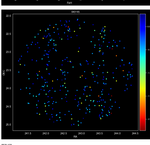
Sc: 0
Ser: 0
Ser: 100
Ser: 0
Ser: 0







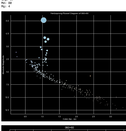


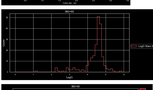


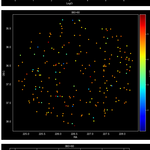
0240:00

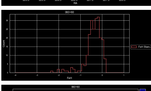
main_sequence: 175
subgiants: 0
subgiants: 0
red_giants: 0
red_giants: 0
red_giants + red_clump: 60

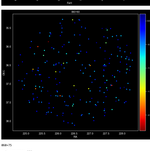
Sc: 0
Ser: 0
Ser: 0
Ser: 0
Ser: 0







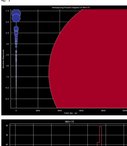


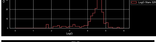


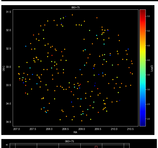
0240:71

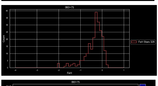
main_sequence: 100
subgiants: 0
subgiants: 0
red_giants: 151
red_giants: 0
red_giants + red_clump: 120

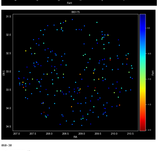
Sc: 0
Ser: 0.9
Ser: 99
Ser: 0
Ser: 0







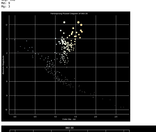


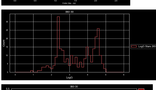


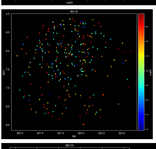
0040-30

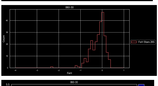
```
main_sequences: 92
humanity: 17
subgoaling: 0
real_goaltest: 242
real_expansions: 242
real_planlen = real_time: 345

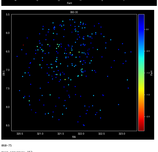
cov: 0
dev: 0
Max: 348
Min: 0
No: 0
```







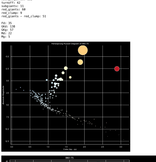


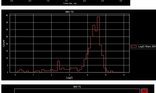


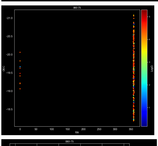
0040-55

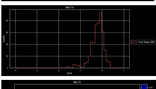
```
main_sequences: 152
humanity: 41
subgoaling: 0
real_goaltest: 38
real_expansions: 38
real_planlen = real_time: 73

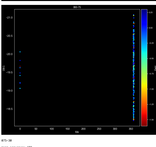
cov: 0
dev: 0.79
Max: 3
Min: 0
No: 1
```







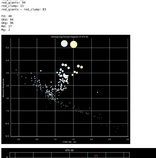


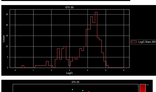


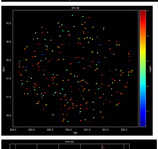
0070-30

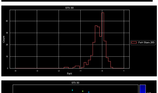
```
main_sequences: 181
humanity: 12
subgoaling: 0
real_goaltest: 72
real_expansions: 72
real_planlen = real_time: 83

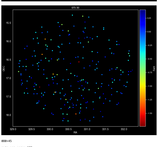
cov: 0
dev: 0
Max: 30
Min: 0
No: 1
```







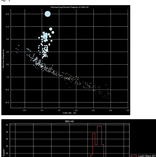


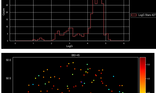


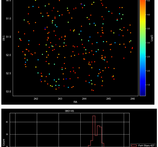
0090-45

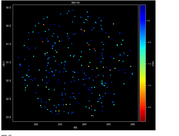
```
main_sequences: 189
humanity: 19
subgoaling: 0
real_goaltest: 51
real_expansions: 51
real_planlen = real_time: 262

cov: 0
dev: 0.9
Max: 45
Min: 0
No: 1
```





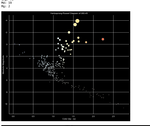


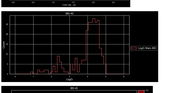


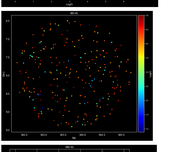
2030-49

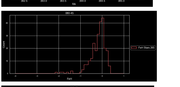
main_sequence: 129
turnoff: 0
subgiants: 47
red_giants: 0
red_clump: 10
red_giants - red_clump: 12

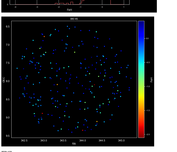
Fe: 32
Age: 182
Mass: 1
Mv: 3







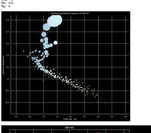


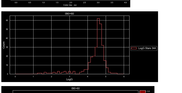


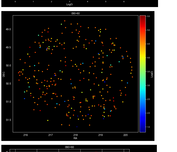
2030-50

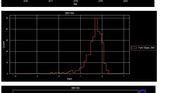
main_sequence: 240
turnoff: 0
subgiants: 1
red_giants: 0
red_clump: 4
red_giants - red_clump: 42

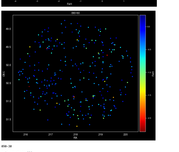
Fe: 32
Age: 182
Mass: 1
Mv: 3
Mv: 4







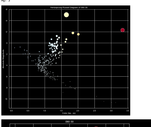


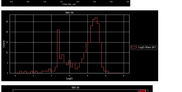


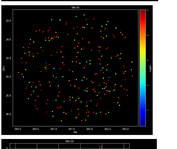
2030-51

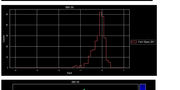
main_sequence: 119
turnoff: 0
subgiants: 0
red_giants: 30
red_clump: 6
red_giants - red_clump: 71

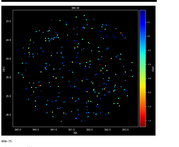
Fe: 32
Age: 182
Mass: 1
Mv: 3







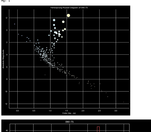


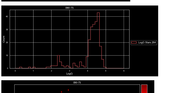


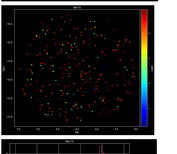
2030-75

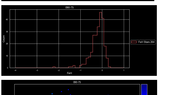
main_sequence: 161
turnoff: 38
subgiants: 0
red_giants: 57
red_clump: 14
red_giants - red_clump: 43

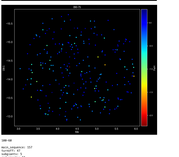
Fe: 32
Age: 182
Mass: 1
Mv: 3
Mv: 4







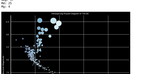


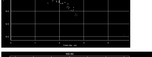


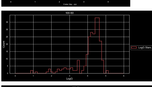
2030-80

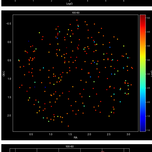
main_sequence: 157
turnoff: 0
subgiants: 0
red_giants: 91
red_clump: 20
red_giants - red_clump: 71

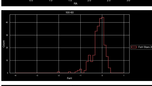
Fe: 32
Age: 182
Mass: 1
Mv: 3

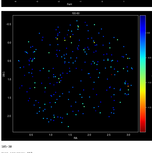












120-30

```
main_separator: 113
hydrofilt: 1
subgraph: 30
subgraph: 47
cnd_clumps: 20
cnd_graph: = cnd_clump: 67

Dec: 25
Ddec: 105
Mag: 18
Mc: 4
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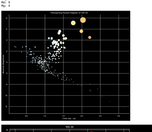
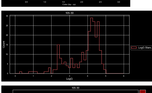
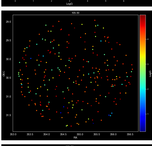
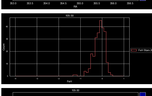
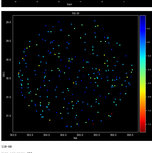






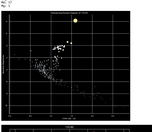


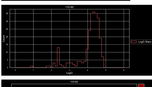


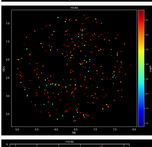
120-60

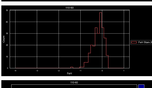
```
main_separator: 150
hydrofilt: 1
subgraph: 30
subgraph: 42
cnd_clumps: 17
cnd_graph: = cnd_clump: 42

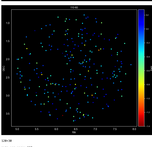
Dec: 27
Ddec: 107
Mag: 18
Mc: 17
```







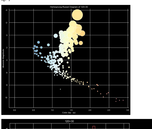


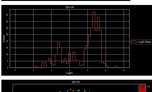


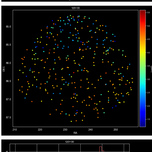
120-90

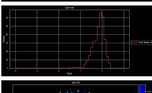
```
main_separator: 150
hydrofilt: 1
subgraph: 30
subgraph: 52
cnd_clumps: 17
cnd_graph: = cnd_clump: 104

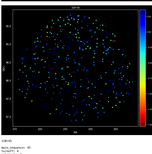
Dec: 26
Ddec: 104
Mag: 18
Mc: 17
```







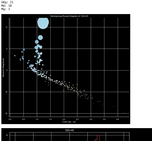


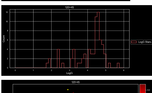


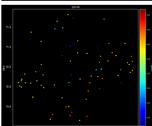
120-45

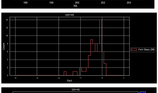
```
main_separator: 95
hydrofilt: 1
subgraph: 30
subgraph: 1
cnd_clumps: 10
cnd_graph: = cnd_clump: 228

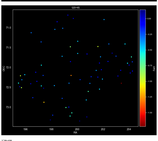
Dec: 0
Ddec: 0
Mag: 18
Mc: 0
```

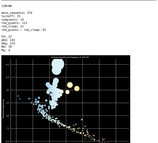








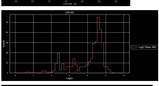


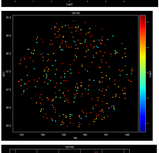


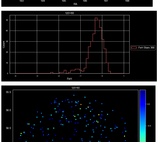
1:5:50

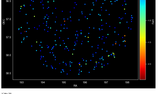
main_sequence: 214
turnoff: 15
subgiants: 0
red_giants: 313
clump: 1
red_giants - red_clump: 92

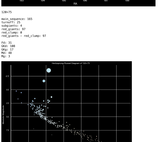
Dec: 22
Ndg: 22
Ndg: 22
Ndg: 22
Ng: 0







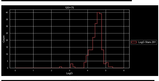


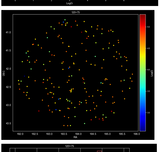


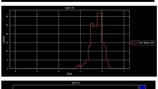
1:5:75

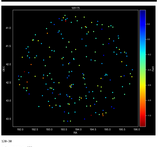
main_sequence: 340
turnoff: 25
subgiants: 0
red_giants: 47
clump: 1
red_giants - red_clump: 97

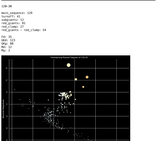
Dec: 22
Ndg: 22
Ndg: 22
Ng: 0
Ng: 0







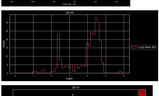


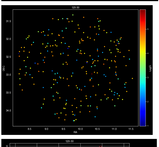


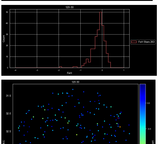
1:10:50

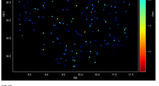
main_sequence: 529
turnoff: 41
subgiants: 0
red_giants: 32
clump: 1
red_giants - red_clump: 54

Dec: 22
Ndg: 22
Ndg: 22
Ng: 0
Ng: 0





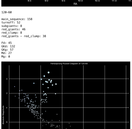


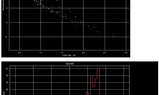


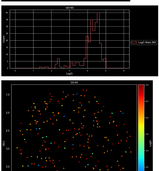
1:10:60

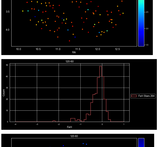
main_sequence: 158
turnoff: 9
subgiants: 0
red_giants: 8
clump: 0
red_giants - red_clump: 38

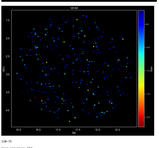
Dec: 22
Ndg: 22
Ndg: 22
Ng: 0
Ng: 0







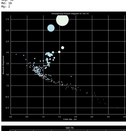


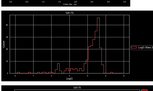


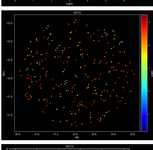
1:10:75

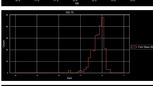
main_sequence: 152
turnoff: 12
subgiants: 0
red_giants: 12
clump: 0
red_giants - red_clump: 58

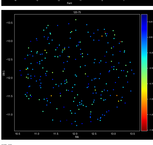
Yo: 0
Xmin: 0
Xmax: 127
Ymin: 0
Yc: 0
Ymax: 0







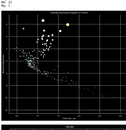


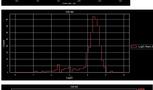


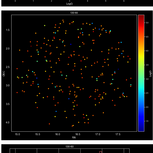
CIR-08

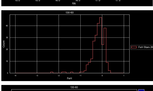
main_progenitor: 172
nsubgrp: 0
nsubgroups: 0
root_progenitor: 0
root_gravtag: 0
root_ninfall: 0
root_gravtag + root_ninfall: 17

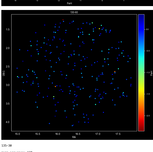
Xo: 0
Xmin: 127
Xmax: 0
Yo: 0
Ymin: 0
Ymax: 0







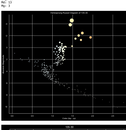


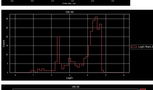


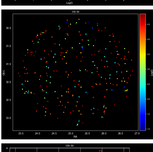
CIR-09

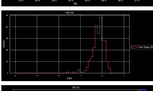
main_progenitor: 1138
nsubgrp: 72
nsubgroups: 72
root_progenitor: 0
root_gravtag: 0
root_ninfall: 0
root_gravtag + root_ninfall: 72

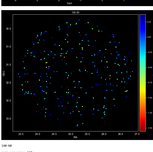
Xo: 0
Xmin: 127
Xmax: 0
Yo: 0
Ymin: 0
Ymax: 0







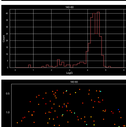


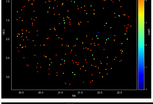


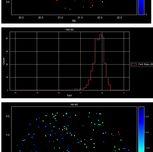
CIR-10

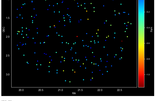
main_progenitor: 1268
nsubgrp: 39
nsubgroups: 39
root_progenitor: 0
root_gravtag: 0
root_ninfall: 0
root_gravtag + root_ninfall: 39

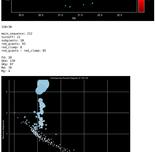
Xo: 0
Xmin: 127
Xmax: 0
Yo: 0
Ymin: 0
Ymax: 0







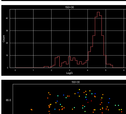


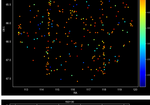


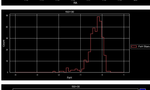
CIR-06

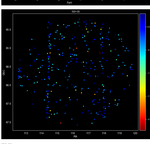
main_progenitor: 312
nsubgrp: 0
nsubgroups: 0
root_progenitor: 0
root_gravtag: 0
root_ninfall: 0
root_gravtag + root_ninfall: 85

Xo: 0
Xmin: 127
Xmax: 0
Yo: 0
Ymin: 0
Ymax: 0





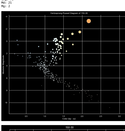


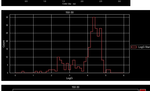


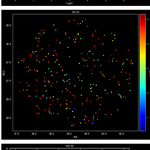
CCW-30

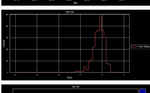
main_sequence: 142
subgiants: 0
subgiants: 0
red_giants: 0
red_giants: 0
red_clump: 58 red_clump: 58

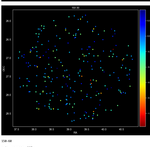
TC: 30
Date: 29
Mag: 8
Mc: 0
Mg: 0







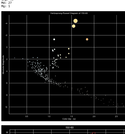


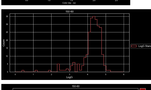


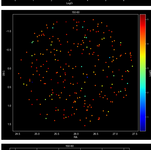
CCW-29

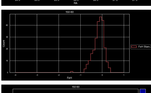
main_sequence: 167
subgiants: 0
subgiants: 0
red_giants: 0
red_giants: 0
red_clump: 34 red_clump: 34

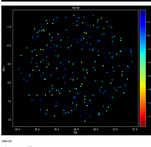
TC: 29
Date: 29
Mag: 8
Mc: 0
Mg: 0







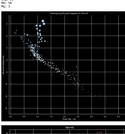


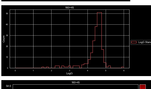


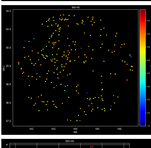
CCW-45

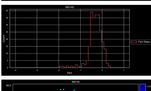
main_sequence: 282
subgiants: 0
subgiants: 0
red_giants: 0
red_giants: 0
red_clump: 46 red_clump: 46

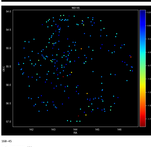
TC: 45
Date: 29
Mag: 8
Mc: 0
Mg: 0







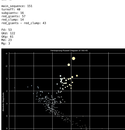


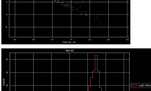


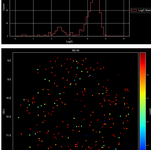
CCW-43

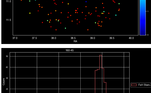
main_sequence: 151
subgiants: 0
subgiants: 0
red_giants: 0
red_giants: 0
red_clump: 43 red_clump: 43

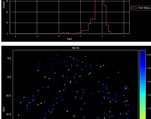
TC: 43
Date: 29
Mag: 8
Mc: 0
Mg: 0

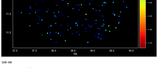








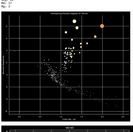


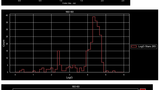


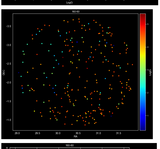
S08-08

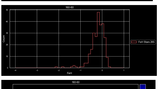
```
main_sequence: 153
turnoff: 39
subgiants: 0
red_giants: 87
red_clump: 27
red_giants - red_clump: 60

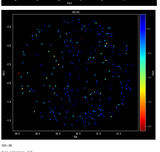
Dec: 0
Ebv: 0.04
Age: 10
Mass: 1
Mp: 7
```







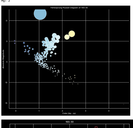


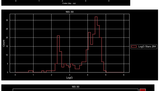


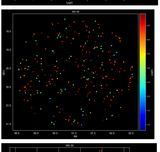
S10-08

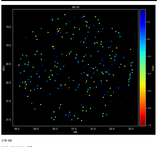
```
main_sequence: 122
turnoff: 39
subgiants: 0
red_giants: 76
red_clump: 22
red_giants - red_clump: 54

Dec: 0
Ebv: 0.02
Age: 10
Mass: 1
Mp: 7
```





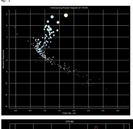


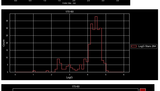


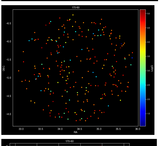
C10-08

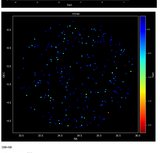
```
main_sequence: 186
turnoff: 39
subgiants: 0
red_giants: 72
red_clump: 19
red_giants - red_clump: 53

Dec: 0
Ebv: 0.03
Age: 10
Mass: 1
Mp: 7
```





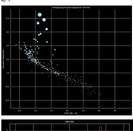


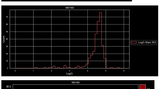


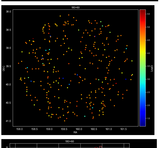
C08-08

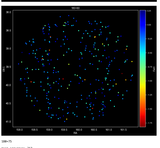
```
main_sequence: 258
turnoff: 0
subgiants: 0
red_giants: 0
red_clump: 0
red_giants - red_clump: 13

Dec: 0
Ebv: 0.04
Age: 10
Mass: 1
Mp: 7
```





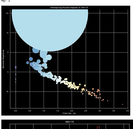


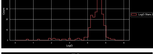


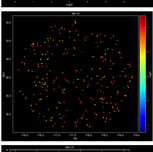
S08-15

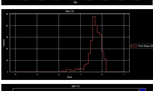
```
main_sequence: 153
turnoff: 0
subgiants: 0
red_giants: 0
red_clump: 0
red_giants - red_clump: 43

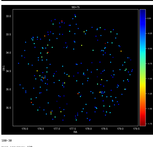
Dec: 0
Ebv: 0.04
Age: 10
Mass: 1
Mp: 15
```







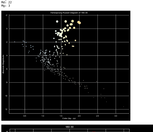


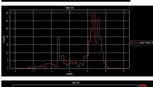


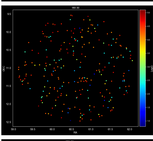
1208-38

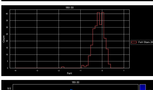
main_sequence: 1138
turnoff: 71
subgiants: 31
red_giants: 18
red_clump: 10
red_giants - red_clump: 67

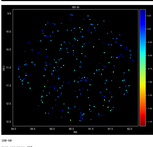
FeH: -0.5
Age: 12.0
Dist: 2.0
M: 0.8
Mv: 0.0







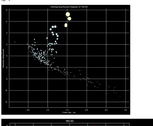


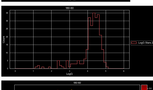


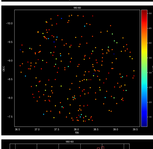
1208-40

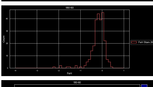
main_sequence: 1168
turnoff: 74
subgiants: 5
red_giants: 36
red_clump: 18
red_giants - red_clump: 17

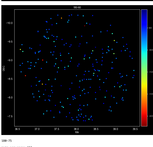
FeH: -0.1
Age: 12.0
Dist: 2.0
M: 0.8
Mv: 0.0







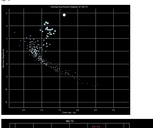


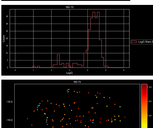


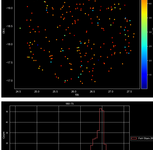
1208-75

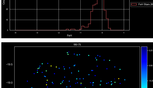
main_sequence: 1411
turnoff: 53
subgiants: 6
red_giants: 42
red_clump: 9
red_giants - red_clump: 33

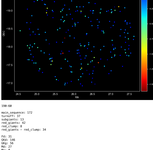
FeH: -0.8
Age: 12.0
Dist: 2.0
M: 0.8
Mv: 0.0







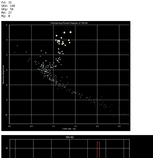


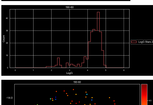


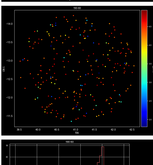
1208-80

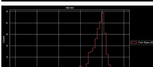
main_sequence: 1172
turnoff: 77
subgiants: 5
red_giants: 35
red_clump: 1
red_giants - red_clump: 34

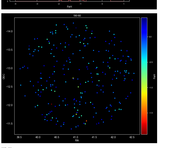
FeH: -0.5
Age: 12.0
Dist: 2.0
M: 0.8
Mv: 0.0







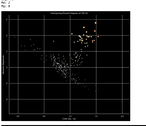


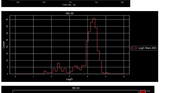


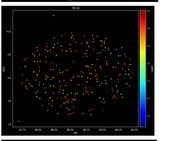
CCD-30

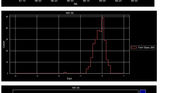
main_sequence: 120
turboFit: 0
subpixels: 1
cut_pixels: 0
cut_clumps: 10
min_pixels : tot_clump: 41

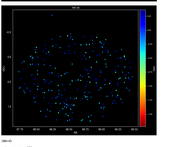
Dx: 25
Dy: 12
Mx: 0
My: 0
Mp: 4







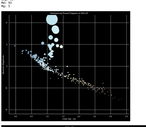


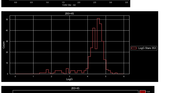


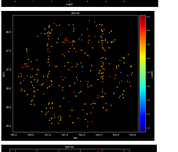
CCD-45

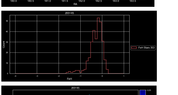
main_sequence: 230
turboFit: 0
subpixels: 1
cut_pixels: 0
cut_clumps: 0
min_pixels : tot_clump: 43

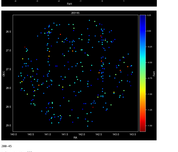
Dx: 27
Dy: 19
Mx: 0
My: 0
Mp: 0







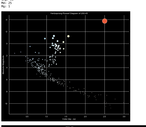


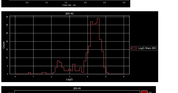


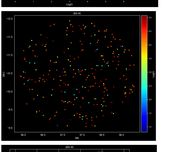
CCD-55

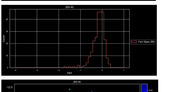
main_sequence: 161
turboFit: 0
subpixels: 1
cut_pixels: 0
cut_clumps: 10
min_pixels : tot_clump: 44

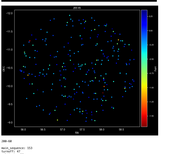
Dx: 28
Dy: 13
Mx: 0
My: 0
Mp: 0







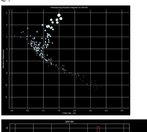


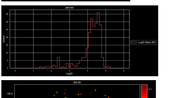


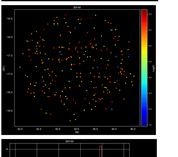
CCD-60

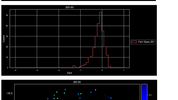
main_sequence: 153
turboFit: 0
subpixels: 1
cut_pixels: 0
cut_clumps: 10
min_pixels : tot_clump: 48

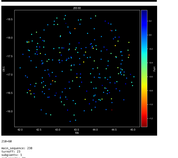
Dx: 32
Dy: 12
Mx: 0
My: 0
Mp: 0







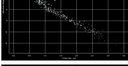


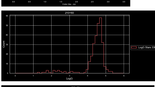


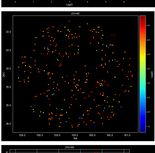
CCD-65

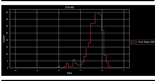
main_sequence: 230
turboFit: 0
subpixels: 1
cut_pixels: 0
cut_clumps: 0
min_pixels : tot_clump: 60

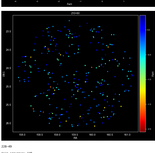
Dx: 35
Dy: 20
Mx: 0
My: 0
Mp: 0







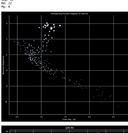


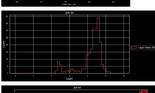


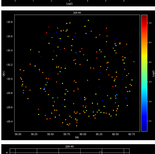
2D-4D

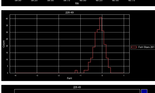
```
main_sequence: 140
hungarit: 31
subgamma: 0
num_gamma: 36
num_gamma: 0
num_gamma = num_clump: 62

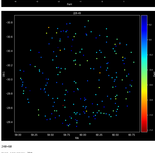
Dx: 0
Dy: 0
Dz: 32
Mx: 0
My: 0
Mz: 0
```







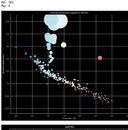


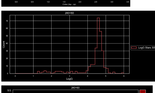


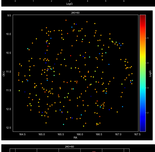
2D-3D

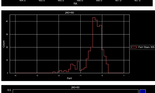
```
main_sequence: 154
hungarit: 31
subgamma: 0
num_gamma: 0
num_gamma: 0
num_gamma = num_clump: 47

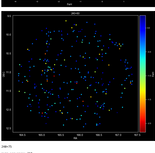
Dx: 0
Dy: 29
Dz: 0
Mx: 0
My: 0
Mz: 0
```







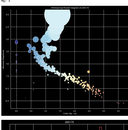


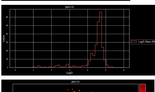


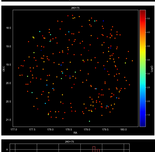
2D-7D

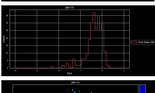
```
main_sequence: 258
hungarit: 0
subgamma: 0
num_gamma: 0
num_gamma: 0
num_gamma = num_clump: 50

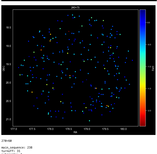
Dx: 29
Dy: 29
Dz: 0
Mx: 0
My: 0
Mz: 0
```







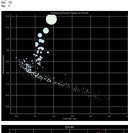


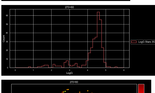


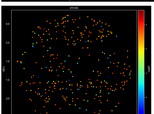
2D-8D

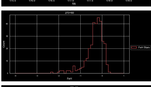
```
main_sequence: 258
hungarit: 0
subgamma: 0
num_gamma: 0
num_gamma: 0
num_gamma = num_clump: 41

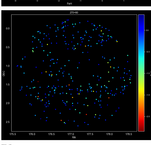
Dx: 0
Dy: 29
Dz: 29
Mx: 0
My: 0
Mz: 0
```





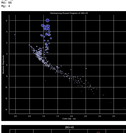


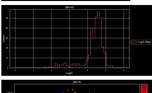


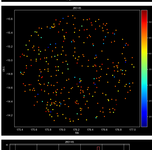


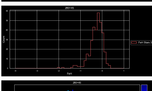
2DH-03

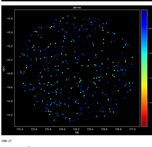
main_parameter: 261
bunpath: 25
subpath: 4
cut_parameter: M
cut_value: 37
red_parameter: red_clump: 72
dx: 0
dy: 0
Mag: 150
Mx: 50
My: 50
Mz: 0





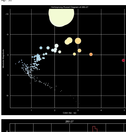


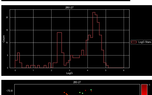


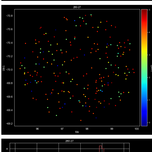


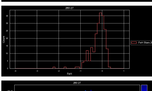
2DH-27

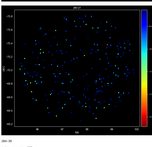
main_parameter: 95
bunpath: 25
subpath: 4
cut_parameter: M
cut_value: 37
red_parameter: red_clump: 143
dx: 0
dy: 0
Mag: 50
Mx: 50
My: 50
Mz: 0





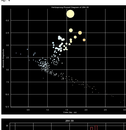


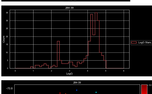


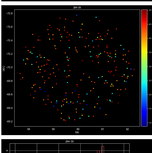


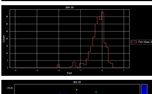
2DH-28

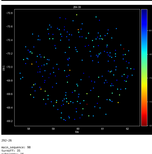
main_parameter: 122
bunpath: 25
subpath: 4
cut_parameter: M
cut_value: 37
red_parameter: red_clump: 74
dx: 0
dy: 0
Mag: 50
Mx: 50
My: 50
Mz: 0





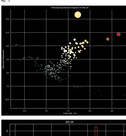


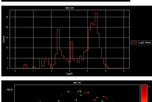


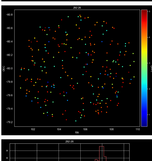


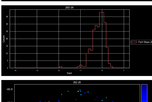
2DH-29

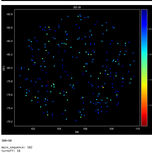
main_parameter: 98
bunpath: 25
subpath: 4
cut_parameter: M
cut_value: 37
red_parameter: red_clump: 88
dx: 0
dy: 0
Mag: 212
Mx: 0
My: 0









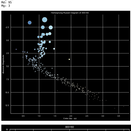


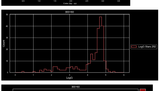
2DH-30

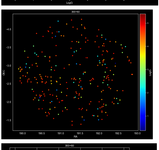
main_parameter: 102
bunpath: 25

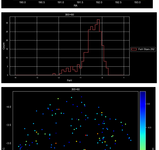
main_separator: 0
halfpath: 0
subpath: 0
rad_grades: 0
rad_clumps: 0
rad_clumps: rad_clump: 84

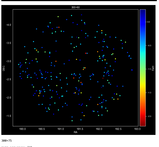
Dx: 20
Dmin: 0.0
Dmax: 20
Nx: 40
Ny: 40







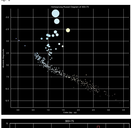


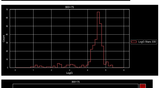


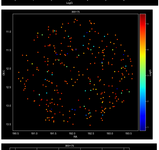
DB0-75

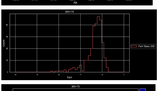
main_separator: 241
halfpath: 0
subpath: 0
rad_grades: 0
rad_clumps: 0
rad_clumps: rad_clump: 84

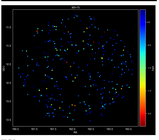
Dx: 20
Dmin: 0.0
Dmax: 20
Nx: 40
Ny: 40











DB0-75-5

main_separator: 124
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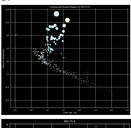
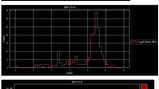
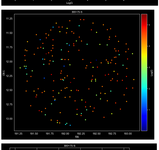
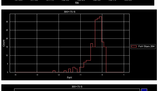
subpath: 5
rad_grades: 0
rad_clumps: 0
rad_clumps: rad_clump: 585

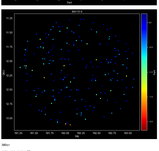
Dx: 20
Dmin: 0.0
Dmax: 20
Nx: 40
Ny: 40







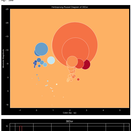


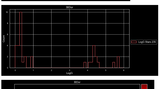


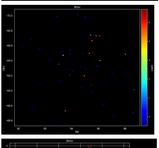
DB0

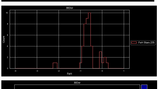
main_separator: 11
halfpath: 0
subpath: 0
rad_grades: 0
rad_clumps: 0
rad_clumps: rad_clump: 222

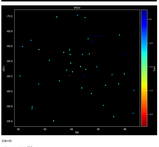
Dx: 20
Dmin: 0.0
Dmax: 20
Nx: 40
Ny: 40







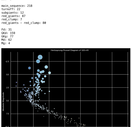


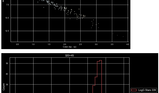


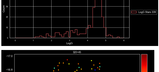
DB-00

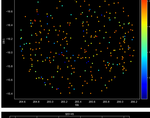
main_separator: 258
halfpath: 0
subpath: 0
rad_grades: 0
rad_clumps: 0
rad_clumps: rad_clump: 88

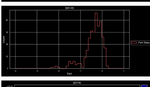
Dx: 20
Dmin: 0.0
Dmax: 20
Nx: 40
Ny: 40

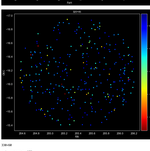




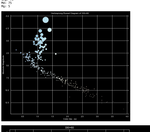


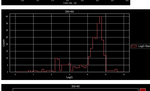


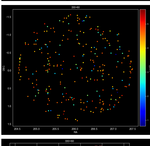


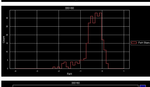


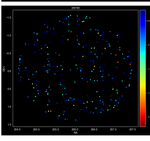
```
01C.dat
main_sequence: 179
height: 18
subgiants: 0
red_giants: 185
Sun: 0.0
red_giants - red_clump: 98
Ok: 0
Ok: 0.0
Ok: 0
Ok: 0
No: 0
```











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Data_pts: 3981
==========================================================================
==========================================================================
main_sequence: 1062
height: 102
subgiants: 0
red_giants: 1586

Files: 'B01c0.pts' 'B01c1B.pts' 'B01c4B.pts' 'B01c4B.pts' 'B01c5B.pts'
       'C01c0.pts' 'C01c1B.pts' 'C01c2.pts' 'C01c3.pts' 'C01c4B.pts'
       'C01c5B.pts' 'C0B01C.pts' 'C0e01C.pts' 'C0H01C.pts' 'C01c6B.pts'

==========================================================================
==========================================================================
B01c0C.pts
main_sequence: 108
height: 0.0
subgiants: 0
red_giants: 0
red_clump: 13
red_giants - red_clump: 84
Ok: 0
Ok: 0.0
Ok: 0
No: 0
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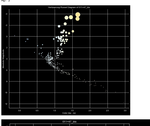

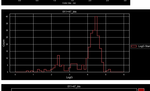

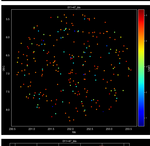

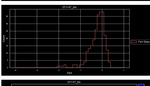

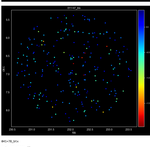

```
B01c1B.pts
main_sequence: 85
height: 0.0
subgiants: 0
red_giants: 0
red_clump: 0
red_giants - red_clump: 135
Ok: 0
Ok: 0.0
Ok: 0
No: 0
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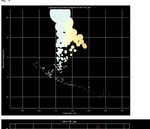
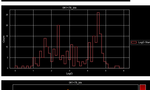
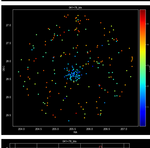
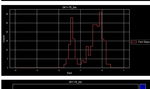
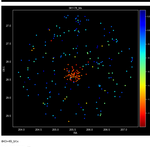


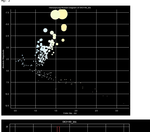


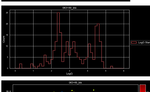


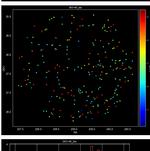


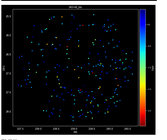


```
B01c4B.pts
main_sequence: 55
height: 0.0
subgiants: 0
red_giants: 24
red_clump: 0
red_giants - red_clump: 137
Ok: 0
Ok: 0.0
Ok: 0
No: 0
```





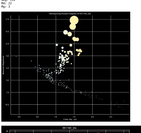


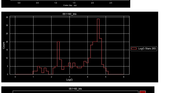


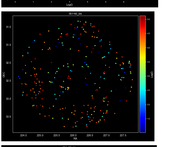
07140_pts

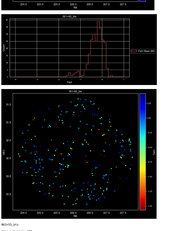
main_sequence: 173
turnoff: 31
subgiants: 0
red_giants: 180
rc_giants: 0
red_giants - rc_clump: 43

Dec: 0
Ebv: 0.02
Mag: 14
Mag: 14
Mu: 0
Nu: 0





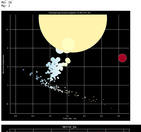


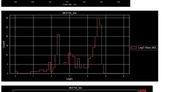


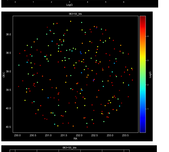
07141_pts

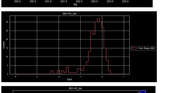
main_sequence: 185
turnoff: 0
subgiants: 0
red_giants: 126
rc_giants: 0
red_giants - rc_clump: 126

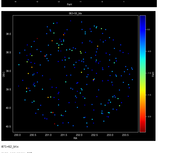
Dec: 0
Ebv: 0.02
Mag: 13
Mag: 13
Mu: 0
Nu: 0







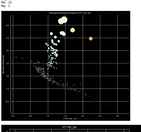


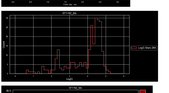


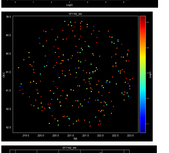
07142_pts

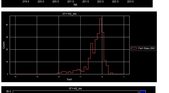
main_sequence: 145
turnoff: 0
subgiants: 0
red_giants: 62
rc_giants: 0
red_giants - rc_clump: 77

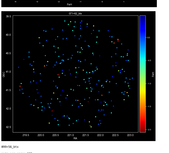
Dec: 0
Ebv: 0.02
Mag: 16
Mag: 16
Mu: 0
Nu: 0







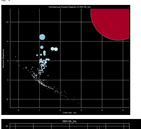


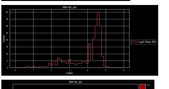


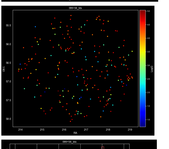
07143_pts

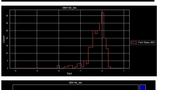
main_sequence: 136
turnoff: 0
subgiants: 0
red_giants: 56
rc_giants: 0
red_giants - rc_clump: 80

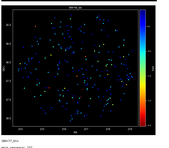
Dec: 0
Ebv: 0.02
Mag: 15
Mu: 0
Nu: 0







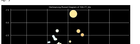


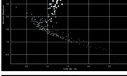


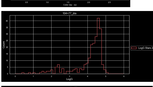
08017_pts

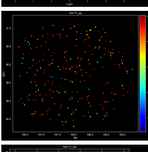
main_sequence: 157
turnoff: 0
subgiants: 0
red_giants: 92
rc_giants: 0
red_giants - rc_clump: 63

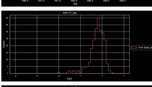
Dec: 0
Ebv: 0.02
Mag: 14
Mag: 14
Mu: 0
Nu: 0

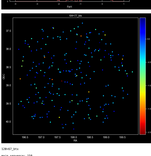








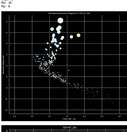


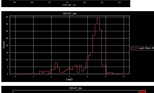


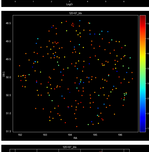
CLMJC_pro

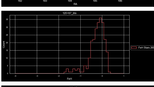
main_sequence: 258
turnoff: 19
subgiants: 32
red_giants: 98
red_giants - m_clump: 66

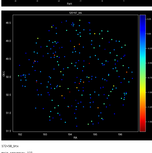
Xc: 0.0
Mmin: 0.0
Mmax: 0.0
Mc: 0
Mu: 0







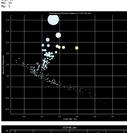


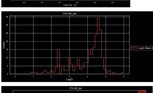


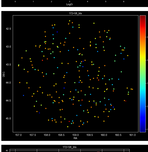
CLTJG_pro

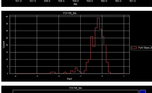
main_sequence: 127
turnoff: 19
subgiants: 31
red_giants: 96
red_giants - m_clump: 65

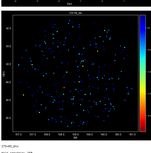
Xc: 0.0
Mmin: 0.0
Mmax: 0.0
Mc: 0
Mu: 0







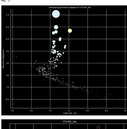


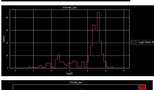


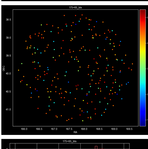
CTJUB_pro

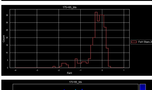
main_sequence: 258
turnoff: 19
subgiants: 32
red_giants: 98
red_giants - m_clump: 66

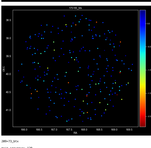
Xc: 0.0
Mmin: 0.0
Mmax: 0.0
Mc: 0
Mu: 0







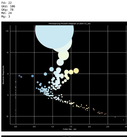


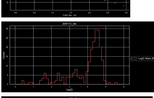


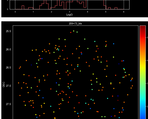
BMNTC_pro

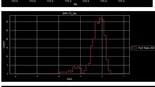
main_sequence: 129
turnoff: 19
subgiants: 31
red_giants: 96
red_giants - m_clump: 65

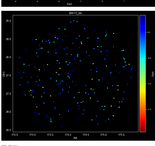
Xc: 0.0
Mmin: 0.0
Mmax: 0.0
Mc: 0
Mu: 0







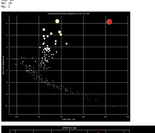


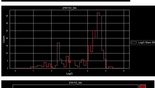


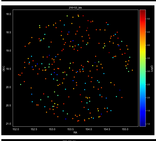
CD4+CL.pts

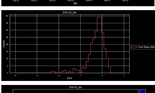
```
main_separator: 146
subgroupno: 0
subgroupnx: 0
nsel_points: 40
nsel_points: 40
nsel_trees: 10
nsel_trees: 0 nd_tries: 96

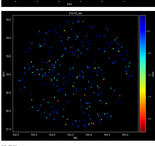
Cut: 25
Dim: 20
Dep: 20
Nc: 2
Nv: 0
```







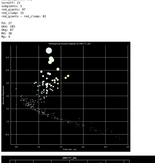


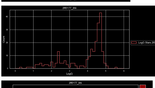


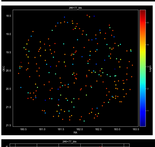
CD8+CT.pts

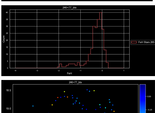
```
main_separator: 162
subgroupno: 0
subgroupnx: 0
nsel_points: 5
nsel_points: 5
nsel_trees: 10
nsel_trees: 0 nd_tries: 42

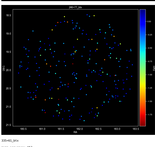
Cut: 25
Dim: 20
Dep: 20
Nc: 2
Nv: 0
```







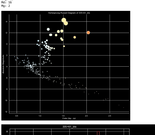


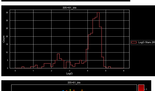


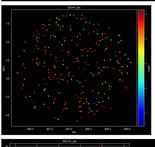
CD4+EL.pts

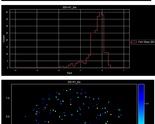
```
main_separator: 152
subgroupno: 0
subgroupnx: 0
nsel_points: 12
nsel_points: 12
nsel_trees: 10 nd_tries: 57

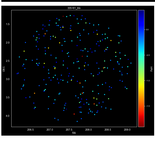
Cut: 25
Dim: 20
Dep: 20
Nc: 2
Nv: 0
```











```
main_sep: 1787
```

```
##########################################################################
```

```
main_separator: 157
subgroupno: 0
subgroupnx: 0
nsel_points: 111

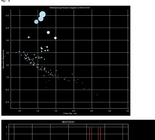
Plots: ["BOXPLOT" "LABCOMP" "ROWCV" "SCALPLOT" "SDCOMP" "VMPCOMP"]
```

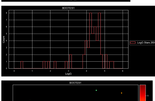
```
##########################################################################
```

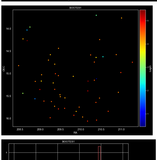
BOXPLOT

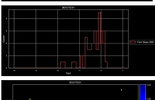
```
main_separator: 36
subgroupno: 0
subgroupnx: 0
nsel_points: 111
nsel_points: 111
nsel_trees: 10 nd_tries: 333

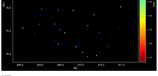
Cut: 50
Dim: 20
Dep: 20
Nc: 2
Nv: 0
```







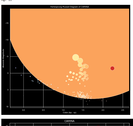


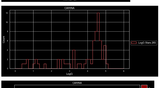


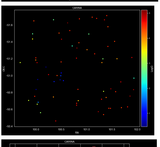
CATDM

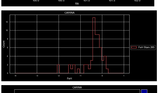
```
main_sequence: 50
turnoff: 5
subgiants: 5
red_giants: 210
red_clump: 4
red_giants + red_clump: 230

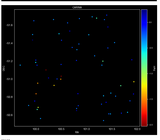
Dec: 0
Ebv: 0.0
Age: 13
Mass: 1
Mv: 5
```







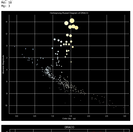


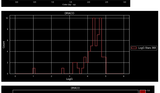


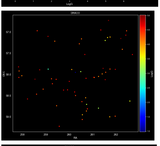
DMAG

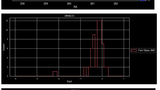
```
main_sequence: 42
turnoff: 5
subgiants: 5
red_giants: 215
red_clump: 4
red_giants + red_clump: 215

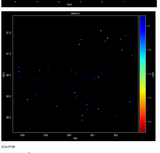
Dec: 0
Ebv: 0.0
Age: 13
Mass: 1
Mv: 5
```







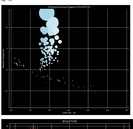


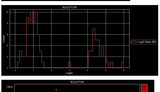


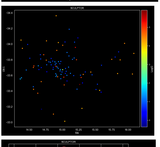
SCATDM

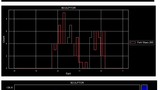
```
main_sequence: 38
turnoff: 4
subgiants: 4
red_giants: 215
red_clump: 4
red_giants + red_clump: 231

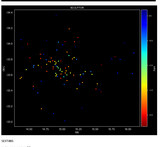
Dec: 0
Ebv: 0.0
Age: 13
Mass: 1
Mv: 5
```







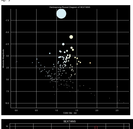


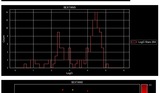


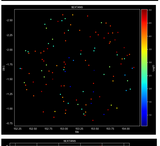
SCATBMS

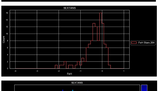
```
main_sequence: 50
turnoff: 5
subgiants: 5
red_giants: 210
red_clump: 4
red_giants + red_clump: 184

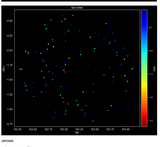
Dec: 0
Ebv: 0.0
Age: 13
Mass: 1
Mv: 5
```







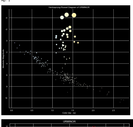


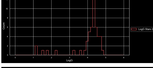


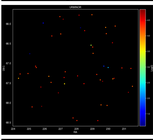
SATBMS

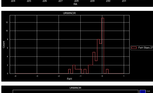
```
main_sequence: 31
turnoff: 4
subgiants: 4
red_giants: 215
red_clump: 4
red_giants + red_clump: 233

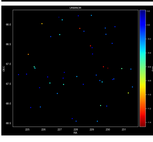
Dec: 0
Ebv: 0.0
Age: 13
Mass: 1
Mv: 5
```









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Data_chunk: 7700

#################################################################
#################################################################

Main_sequence: 1005
Subseq#: 0
subgame#: 0
rnd_game#: 0
rnd_game#: 0

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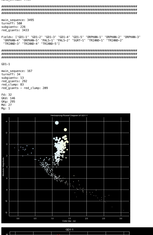
'0%'=0.0 '10%'=0.0 '20%'=0.0 '30%'=0.0 '40%'=0.0 '50%'=0.0 '60%'=0.0 '70%'=0.0 '80%'=0.0 '90%'=0.0 '100%'=0.0

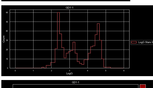
#################################################################
#################################################################
```

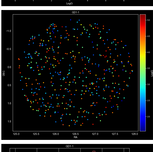
GDS-3

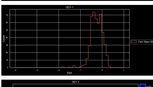
```
Main_sequence: 167
Subseq#: 34
subgame#: 0
rnd_game#: 167
rnd_game#: 167
rnd_game#: - rnd_flag: 180

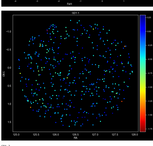
Ply: 35
Mov: 35
Map: 20
Mov: 20
Mv: 0
```







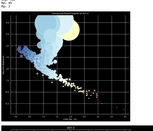


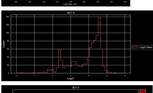


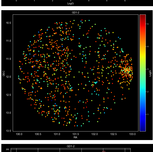
GDS-17

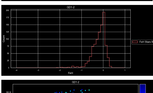
```
Main_sequence: 4838
Subseq#: 172
subgame#: 0
rnd_game#: 38
rnd_game#: 38
rnd_game#: - rnd_flag: 172

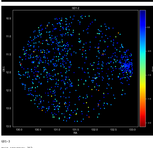
Ply: 173
Mov: 173
Map: 87
Mov: 87
Mv: 0
```







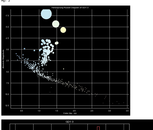


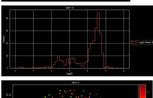


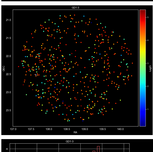
GDS-2

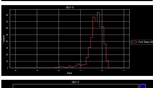
```
Main_sequence: 312
Subseq#: 0
subgame#: 0
rnd_game#: 38
rnd_game#: 38
rnd_game#: - rnd_flag: 148

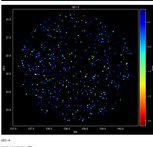
Ply: 39
Mov: 39
Map: 22
Mov: 22
Mv: 0
```







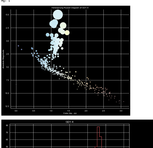


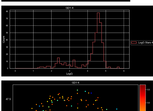


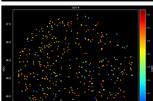
GDS-4

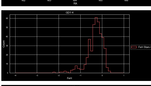
```
Main_sequence: 250
Subseq#: 0
subgame#: 0
rnd_game#: 38
rnd_game#: 38
rnd_game#: - rnd_flag: 114

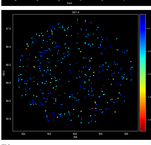
Ply: 39
Mov: 39
Map: 24
Mov: 24
Mv: 0
```







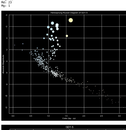


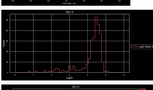


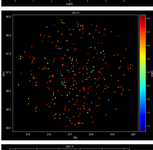
SDT-3

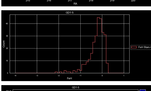
main_sequence: 284
turnoff: 24
subgiants: 0
red_giants: 0
red_clump: 0
n_clump = red_clump: 173

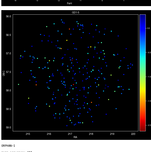
Dec: 20
Ndec: 192
Mag: 19
Mc: 21
Nc: 0







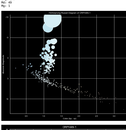


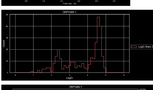


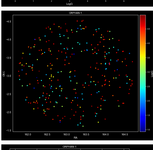
DEPHA-1

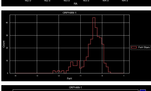
main_sequence: 155
turnoff: 12
subgiants: 0
red_giants: 0
red_clump: 0
n_clump = red_clump: 162

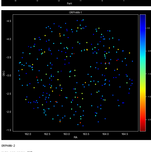
Dec: 20
Ndec: 192
Mag: 19
Mc: 21
Nc: 0







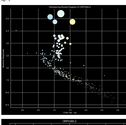


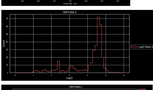


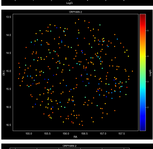
DEPHA-2

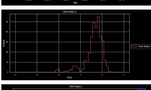
main_sequence: 168
turnoff: 14
subgiants: 0
red_giants: 0
red_clump: 148
n_clump = red_clump: 136

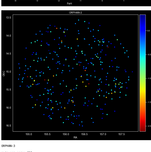
Dec: 20
Ndec: 192
Mag: 19
Mc: 21
Nc: 0







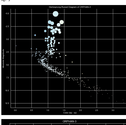


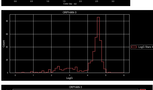


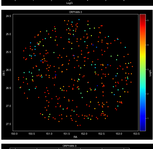
DEPHA-3

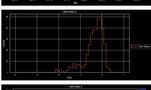
main_sequence: 362
turnoff: 24
subgiants: 0
red_giants: 0
red_clump: 0
n_clump = red_clump: 139

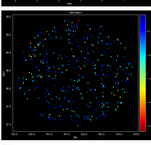
Dec: 20
Ndec: 192
Mag: 19
Mc: 21
Nc: 0







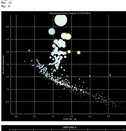


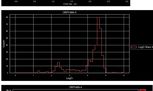


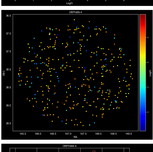
GD96-1

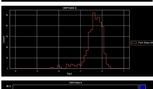
main_sequence: 258
turboff: 0
subgiants: 0
redgiants: 11
rot_gravity: 0
rot_gravity + rot_clump: 126

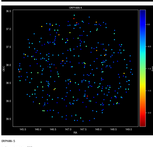
Dir: 01
Mass: 1.00
Age: 0
Rot: 0
No: 0







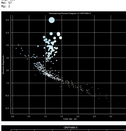


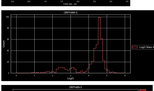


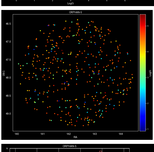
GD96-2

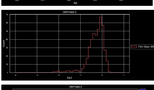
main_sequence: 300
turboff: 0
subgiants: 0
redgiants: 11
rot_gravity: 0
rot_gravity + rot_clump: 133

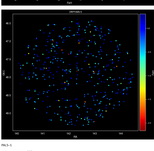
Dir: 01
Mass: 1.00
Age: 0
Rot: 0
No: 0







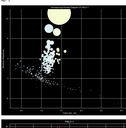


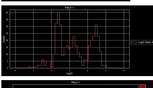


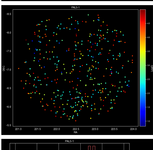
M67-1

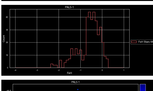
main_sequence: 186
turboff: 0
subgiants: 12
redgiants: 12
rot_gravity: 0
rot_gravity + rot_clump: 233

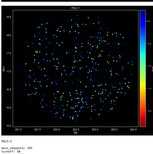
Dir: 01
Mass: 0.90
Age: 0
Rot: 0
No: 0







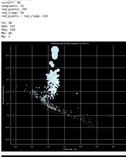


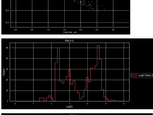


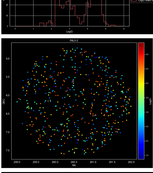
M67-2

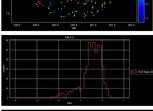
main_sequence: 155
turboff: 0
subgiants: 12
redgiants: 12
rot_gravity: 0
rot_gravity + rot_clump: 243

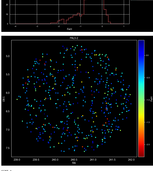
Dir: 01
Mass: 0.94
Age: 0
Rot: 0
No: 0







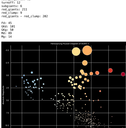


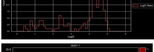


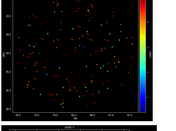
SQR-1

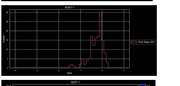
main_sequence: 92
turboff: 0
subgiants: 12
redgiants: 12
rot_gravity: 0
rot_gravity + rot_clump: 282

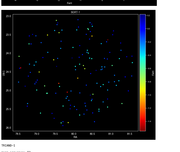
Dir: 01
Mass: 0.98
Age: 0
Rot: 50
No: 50







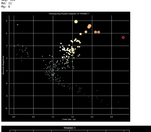


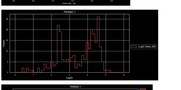


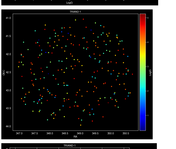
TOTAMS 7

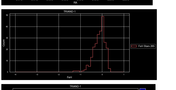
main_separator: 50
subgroups: 0
sub_separator: 0
red_points: 125
blue_points: 0
red_clumps - red_clump: 87

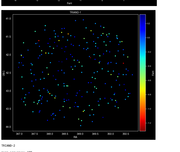
Dec: 0
Ra: 0
Mag: 19
Mag: 0
Mu: 0







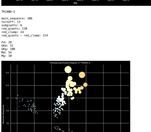


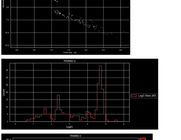


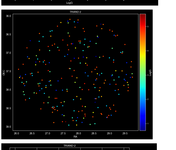
TOTAMS 2

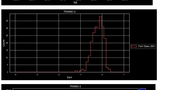
main_separator: 100
subgroups: 0
sub_separator: 0
red_points: 128
blue_points: 0
red_clumps - red_clump: 114

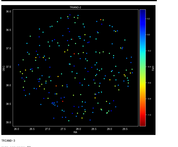
Dec: 0
Ra: 0
Mag: 100
Mag: 0
Mu: 0







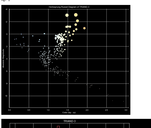


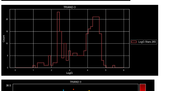


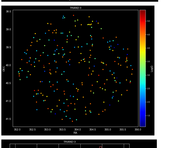
TOTAMS 7

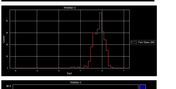
main_separator: 50
subgroups: 0
sub_separator: 0
red_points: 125
blue_points: 0
red_clumps - red_clump: 88

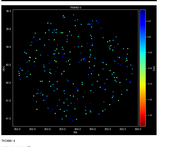
Dec: 0
Ra: 0
Mag: 19
Mag: 0
Mu: 0







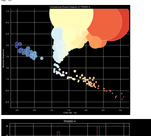


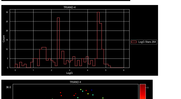


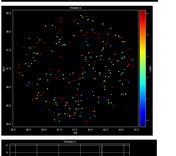
TOTAMS 4

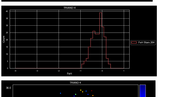
main_separator: 77
subgroups: 0
sub_separator: 0
red_points: 0
red_clumps - red_clump: 130

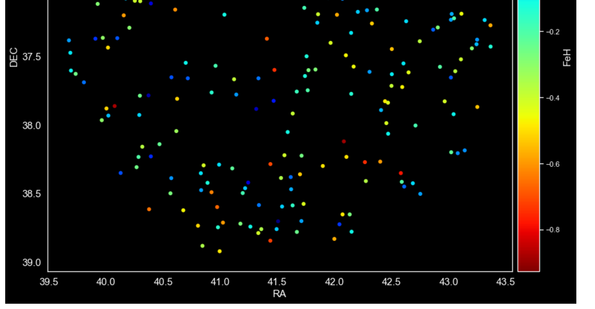
Dec: 0
Ra: 0
Mag: 19
Mu: 0












```
TRIAND-5

main_sequence: 74
turnoff: 9
subgiants: 10
red_giants: 172
red_clump: 27
red_giants - red_clump: 145

Fd: 27
GKd: 28
GKg: 129
Md: 47
Mg: 22
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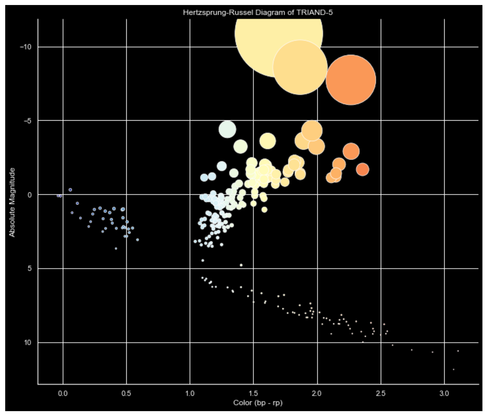

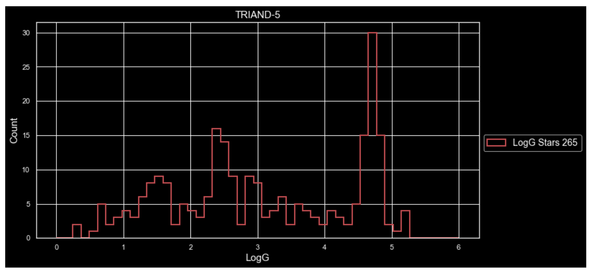

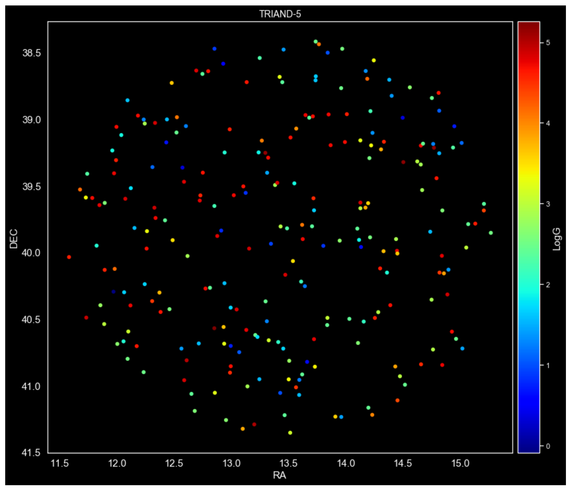

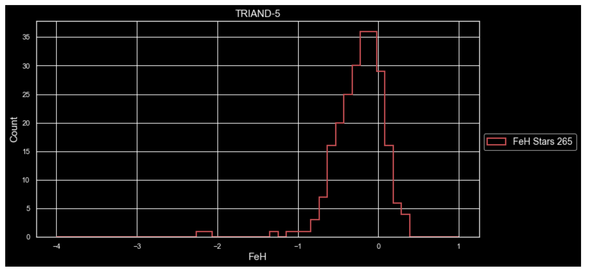

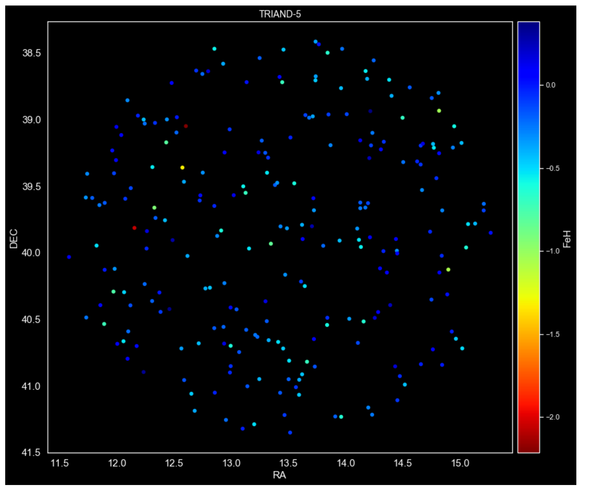


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Done!
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In [2]: