```
Python 3.7.8 (default, Jun 24 2020, 07:29:10)
[GCC 4.8.5 20150623 (Red Hat 4.8.5-44)] on linux2. Type help() for more information.
IPython 7.2.0 -- An enhanced Interactive Python.

In [1]: run/usr/local/bin/ipsolve/Apogee By Prograhamm HM 2 subset 3.py', wdir='/Users/josephparsons/
Users/josephparsons/Lars/ancesHA/Scripts/ipsolve
Reading in data...

Class 0: 10
Class 1: 2
Class 2: 2102
Class 3: 5248
Class 4: 5248
Class 5: 1524
Class 6: 1524
Class 7: 1019
Class 8: 1019

Fit: 42212
Wall: 52148
Sec: 52148
Wall: 00:14:08
Sec: 00:14:08

Wrote: 47287

Wrote: 5738

Pg_ec Stars 5738
Pg_ec Stars 10476
Pg_ec Stars 15214
Pg_ec Stars 19952

GAC_ec Stars 20690
GAC_ec Stars 21428
GAC_ec Stars 22166
GAC_ec Stars 22903

Pg_ec Stars 23642
Pg_ec Stars 24380
Pg_ec Stars 25118
Pg_ec Stars 25857

Pg_ec Stars 26595
Pg_ec Stars 27333
Pg_ec Stars 28072
Pg_ec Stars 28810

Pg_ec Stars 31548
Pg_ec Stars 34286
Pg_ec Stars 37024
Pg_ec Stars 39762

wrote: 18615

Wrote: 18648
Wrote: 18648
Wrote: 18615

wrote: 18615

Wrote: 20648
```

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

main_sequence: 2148
subgiants: 2148
subgiants: 237
red giants: 2211

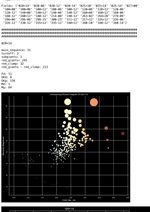
Finding 7 MEMbers: '4.06' '4.01' '4.02' '4.03' '4.04' '4.05' '4.06' '4.07'
 '-108.00' '-108.00' '-108.17' '-108.00' '-108.17' '-108.00' '-108.17' '-108.00'
 '-108.17' '-108.00' '-108.17' '-108.00' '-108.17' '-108.00' '-108.17' '-108.00'
 '-108.17' '-108.00' '-108.17' '-108.00' '-108.17' '-108.00' '-108.17' '-108.00'
 '-108.17' '-108.00' '-108.17' '-108.00' '-108.17' '-108.00' '-108.17' '-108.00'
 '-108.17' '-108.00' '-108.17' '-108.00' '-108.17' '-108.00' '-108.17' '-108.00'

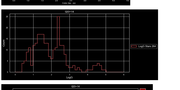
##############################################################################
##############################################################################
```

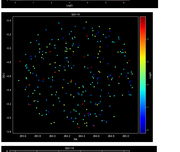
B28-00

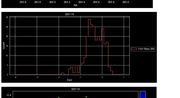
```
main_sequence: 15
subgiants: 1
subgiants: 2
red giants: 210
red_clump: 10
red_clump: 0 NE_clump: 213

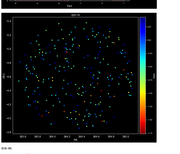
Fe: 0
Mg: 0
Mg: 24
Si: 0
Ni: 0
```







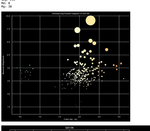


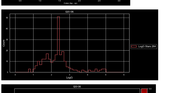


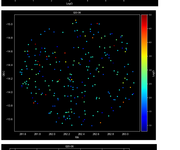
B28-00

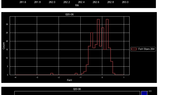
```
main_sequence: 13
subgiants: 1
subgiants: 3
red giants: 21
red_clump: 10
red_clump: 0 NE_clump: 188

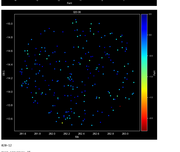
Fe: 0
Mg: 0
Mg: 24
Si: 0
Ni: 0
```







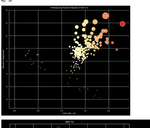


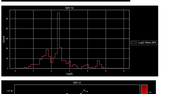


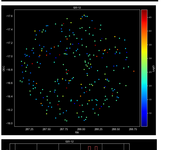
B28-00

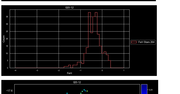
```
main_sequence: 15
subgiants: 1
subgiants: 2
red giants: 210
red_clump: 10
red_clump: 0 NE_clump: 171

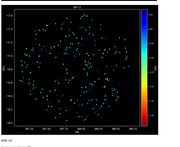
Fe: 0
Mg: 0
Mg: 24
Si: 0
Ni: 0
```







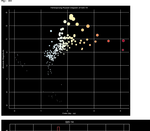


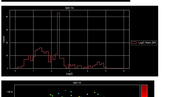


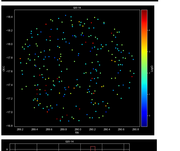
B28-00

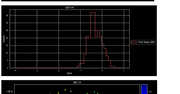
```
main_sequence: 19
subgiants: 1
subgiants: 2
red giants: 21
red_clump: 10
red_clump: 0 NE_clump: 196

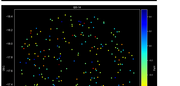
Fe: 0
Mg: 0
Mg: 24
Si: 0
Ni: 0
```

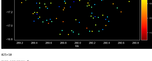








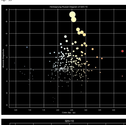


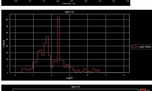


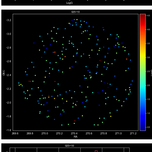
0217-00

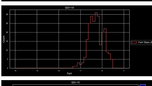
main_sequence: 0
turnoff: 1
subgiants: 0
red_giants: 0
red_giants - red_clump: 280

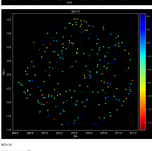
TO: 0
SG: 0
RG: 0
RC: 0
Rg: 0







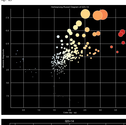


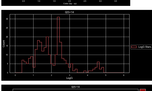


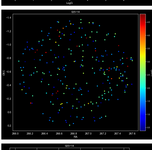
0217-01

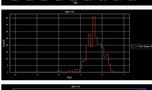
main_sequence: 17
turnoff: 1
subgiants: 0
red_giants: 0
red_giants - red_clump: 242

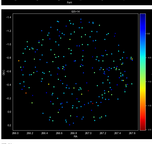
TO: 0
SG: 0
RG: 217
RC: 0
Rg: 0







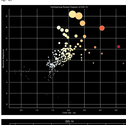


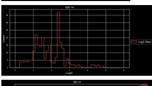


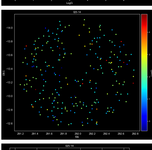
0217-10

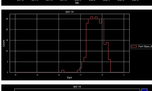
main_sequence: 0
turnoff: 1
subgiants: 0
red_giants: 0
red_giants - red_clump: 211

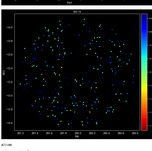
TO: 0
SG: 0
RG: 0
RC: 0
Rg: 0







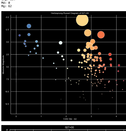


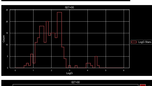


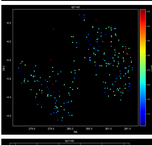
0217-00

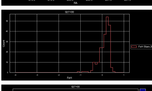
main_sequence: 2
turnoff: 1
subgiants: 0
red_giants: 0
red_giants - red_clump: 212

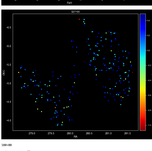
TO: 0
SG: 0
RG: 0
RC: 0
Rg: 0







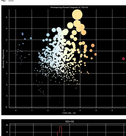


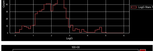


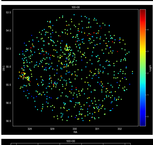
0200-00

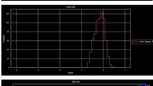
main_sequence: 21
turnoff: 1
subgiants: 0
red_giants: 0
red_giants - red_clump: 210

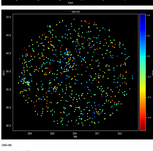
TO: 21
SG: 0
RG: 0
RC: 0
Rg: 0







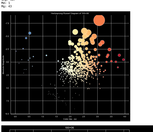


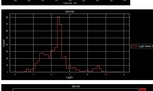


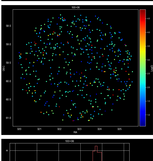
100-00

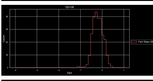
```
main_sequence= 25
hydro= 0
subgroup= 0
ref_group= 0
ref_group= 100
ref_points = ref_clump: 410

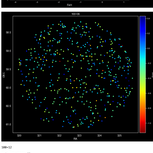
Gal: 0
Gal: 100
Mag: 29
Mag: 0
Mag: 0
```







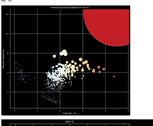


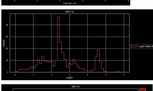


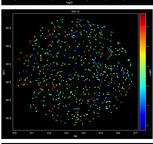
100-01

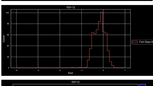
```
main_sequence= 55
hydro= 0
subgroup= 0
ref_group= 0
ref_group= 100
ref_points = ref_clump: 414

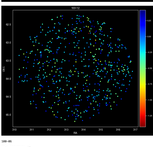
Gal: 0
Gal: 0
Mag: 63
Mag: 0
Mag: 0
```







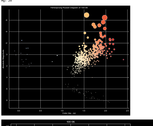


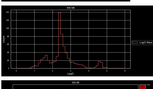


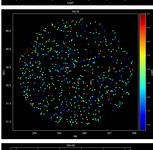
100-05

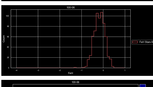
```
main_sequence= 95
hydro= 0
subgroup= 0
ref_group= 0
ref_group= 100
ref_points = ref_clump: 446

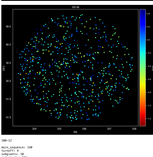
Gal: 0
Gal: 0
Mag: 29
Mag: 0
Mag: 0
```







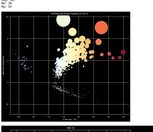


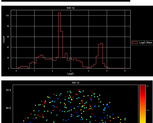


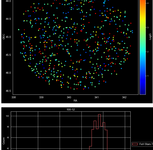
100-10

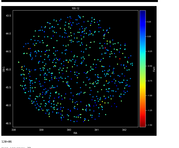
```
main_sequence= 140
hydro= 0
subgroup= 0
ref_group= 0
ref_group= 100
ref_points = ref_clump: 438

Gal: 0
Gal: 100
Mag: 29
Mag: 0
Mag: 0
```





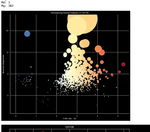


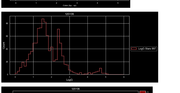


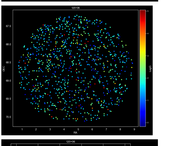
C20:00

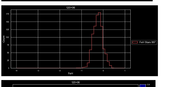
main_sequence: 27
turnoff: 0
subgiants: 0
red_giants: 0
red_clump: 48
red_giants - red_clump: 852

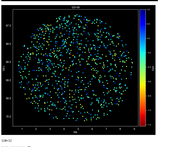
Cu: 11
Mn: 11
Ni: 43
Zn: 11
Ba: 11







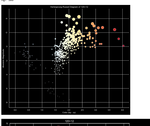


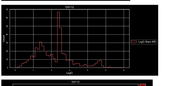


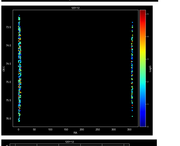
C20:01

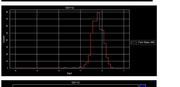
main_sequence: 29
turnoff: 0
subgiants: 0
red_giants: 0
red_clump: 48
red_giants - red_clump: 313

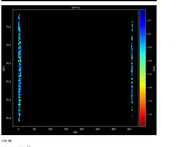
Cu: 11
Mn: 11
Ni: 43
Zn: 11
Ba: 11







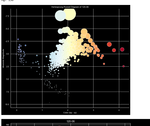


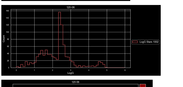


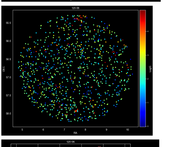
C20:00

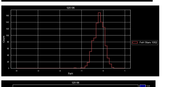
main_sequence: 53
turnoff: 0
subgiants: 0
red_giants: 0
red_clump: 48
red_giants - red_clump: 601

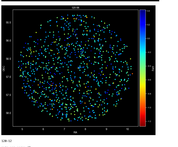
Cu: 10
Mn: 10
Ni: 43
Zn: 10
Ba: 10







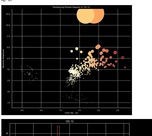


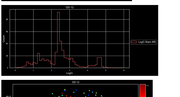


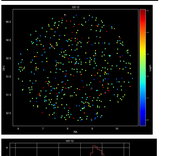
C20:17

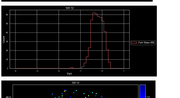
main_sequence: 48
turnoff: 0
subgiants: 0
red_giants: 436
red_clump: 48
red_giants - red_clump: 310

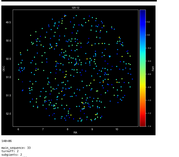
Cu: 10
Mn: 10
Ni: 43
Zn: 10







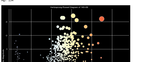


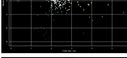


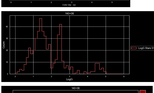
C20:00

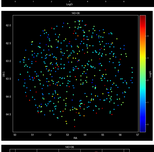
main_sequence: 33
turnoff: 0
subgiants: 0
red_giants: 48
red_clump: 48
red_giants - red_clump: 639

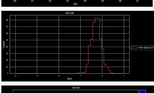
Cu: 10
Mn: 10
Ni: 43
Zn: 10

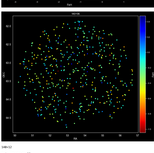








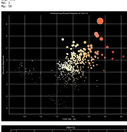


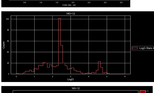


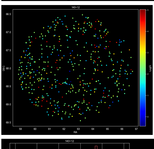
0x8e10

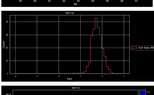
```
main_sequence: 52
subgenre: 4
subgenre: 4
cmd_queue: 427
cmd_queue: 4
cmd_queue: - Mag_Clamp: 298

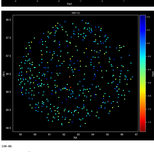
Cls: 31
Mag: 29
Mag: 29
Mag: 29
Mp: 31
```







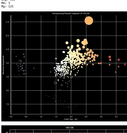


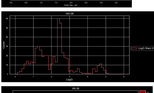


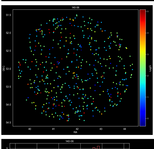
0x8e4b

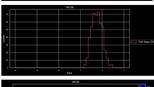
```
main_sequence: 31
subgenre: 4
subgenre: 4
cmd_queue: 4.0
cmd_queue: 288
cmd_queue: - Mag_Clamp: 367

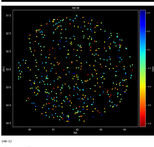
Cls: 3
Mag: 29
Mag: 29
Mag: 29
Mp: 31
```







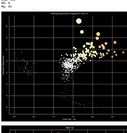


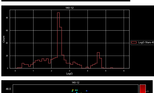


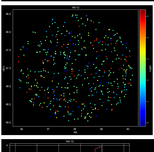
0x8e12

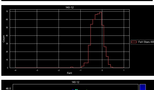
```
main_sequence: 68
subgenre: 4
subgenre: 3
cmd_queue: 12
cmd_queue: 12
cmd_queue: - Mag_Clamp: 298

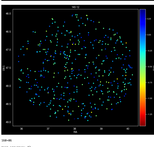
Cls: 31
Mag: 29
Mag: 29
Mp: 31
```











0x8e4b

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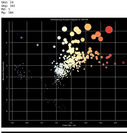
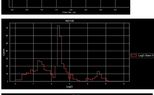
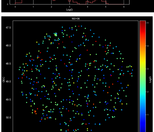
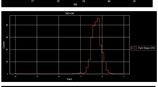
main_sequence: 42
subgenre: 4
subgenre: 4
cmd_queue: 4
cmd_queue: 108
cmd_queue: - Mag_Clamp: 352

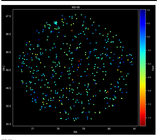
Cls: 31
Mag: 29
Mag: 29
Mp: 31
```







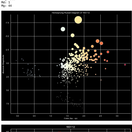


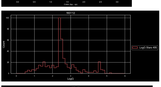


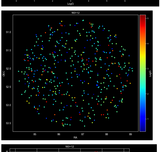
DOM-12

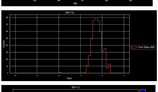
main_sequence: HM
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

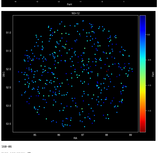
Vis: 10
Ver: 10
Mag: 0.0
Mag: 0.0
Mu: 0.0







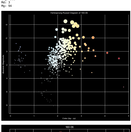


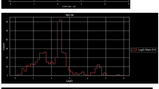


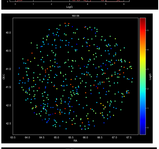
DOM-08

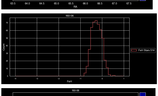
main_sequence: HM
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

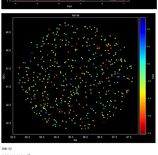
Vis: 10
Ver: 10
Mag: 0.0
Mag: 0.0
Mu: 0.0







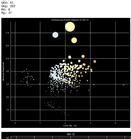


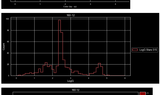


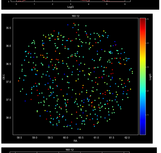
DOM-12

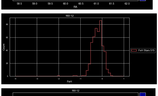
main_sequence: HD
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

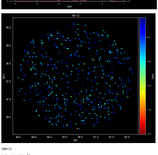
Vis: 0
Ver: 0
Mag: 0.0
Mag: 0.0
Mu: 0.0







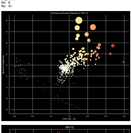


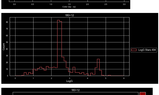


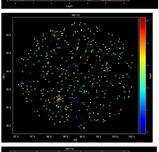
DOM-12

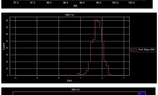
main_sequence: SD
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

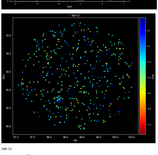
Vis: 0
Ver: 0
Mag: 0.0
Mag: 0.0
Mu: 0.0







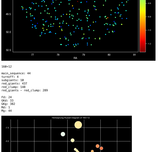




DOM-12

main_sequence: SD
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

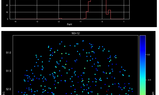
Vis: 0
Ver: 0
Mag: 0.0
Mag: 0.0
Mu: 0.0



DOM-12

main_sequence: SD
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

Vis: 10
Ver: 10
Mag: 0.0
Mag: 0.0
Mu: 0.0



DOM-12

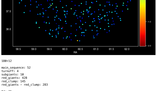
main_sequence: SD
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

Vis: 10
Ver: 10
Mag: 0.0
Mag: 0.0
Mu: 0.0

DOM-12

main_sequence: SD
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

Vis: 10
Ver: 10
Mag: 0.0
Mag: 0.0
Mu: 0.0



DOM-12

main_sequence: SD
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

Vis: 10
Ver: 10
Mag: 0.0
Mag: 0.0
Mu: 0.0

DOM-12

main_sequence: SD
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

Vis: 10
Ver: 10
Mag: 0.0
Mag: 0.0
Mu: 0.0

DOM-12

main_sequence: SD
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

Vis: 10
Ver: 10
Mag: 0.0
Mag: 0.0
Mu: 0.0

DOM-12

main_sequence: SD
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

Vis: 10
Ver: 10
Mag: 0.0
Mag: 0.0
Mu: 0.0

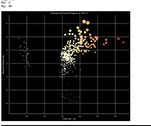
DOM-12

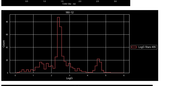
main_sequence: SD
sunspot: 0
spotpoints: 0
rad_points: 30
rad_flux: 0.000
rad_clump: 100
rad_points + rad_clump: 200

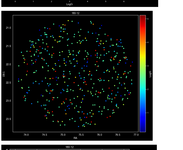
Vis: 10
Ver: 10
Mag: 0.0
Mag: 0.0
Mu: 0.0

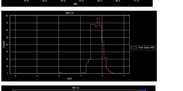
nsd_clump: 240
nsd_points = nsd_clump: 278

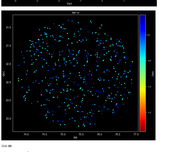
Cx: 12
Cy: 20
Cz: 27
Rx: 40
Ry: 40
Rz: 40







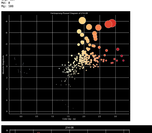


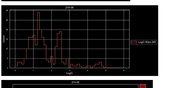


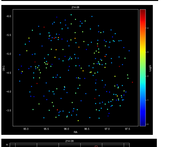
2X4-B8

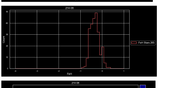
main_sequence: 9
textprint: 4
subgraphs: 1
nsd_points: 32
nsd_clump: 27
nsd_points = nsd_clump: 234

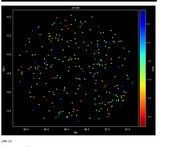
Cx: 1
Cy: 2
Cz: 27
Rx: 40
Ry: 40
Rz: 40







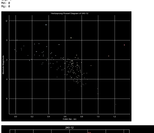


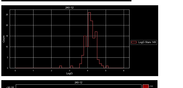


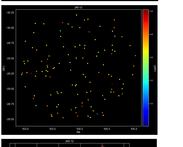
2X8-D3

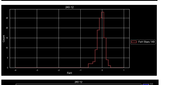
main_sequence: 52
textprint: 4
subgraphs: 30
nsd_points: 32
nsd_clump: 1
nsd_points = nsd_clump: 26

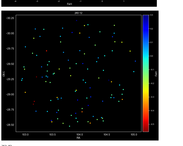
Cx: 12
Cy: 19
Cz: 27
Rx: 40
Ry: 40
Rz: 40







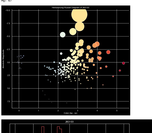


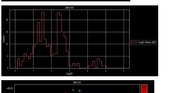


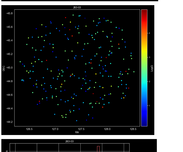
2X3-H3

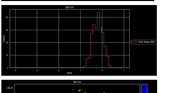
main_sequence: 53
textprint: 4
subgraphs: 30
nsd_points: 32
nsd_clump: 1
nsd_points = nsd_clump: 285

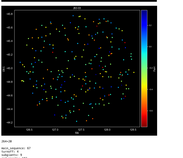
Cx: 1
Cy: 2
Cz: 27
Rx: 40
Ry: 40
Rz: 40







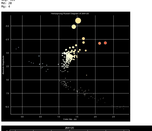


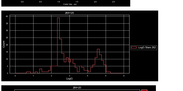


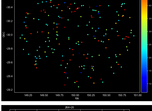
2X3-D7

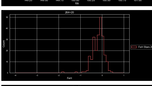
main_sequence: 57
textprint: 4
subgraphs: 1
nsd_points: 192
nsd_clump: 1
nsd_points = nsd_clump: 525

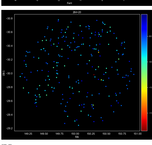
Cx: 12
Cy: 19
Cz: 27
Rx: 40
Ry: 40
Rz: 40







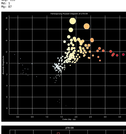


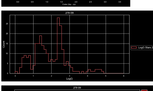


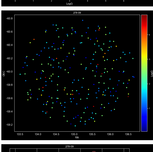
270-00

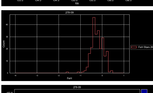
```
main_sequence: 0
binaries: 1
subgiants: 0
red_giants: 0
cluster_age: 100
ref_cutoff: = ref_flux: 200
```

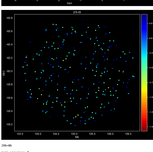
Vx: 0
Vy: 0
Wbg: 213
Wg: 0
Nc: 0







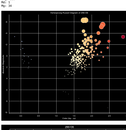


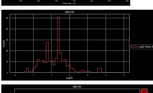


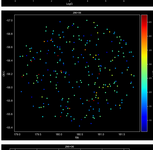
290-00

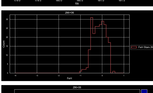
```
main_sequence: 0
binaries: 1
subgiants: 0
red_giants: 0
cluster_age: 100
ref_cutoff: = ref_flux: 100
```

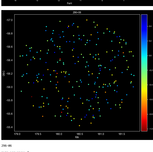
Vx: 0
Vy: 0
Wbg: 214
Wg: 0
Nc: 0







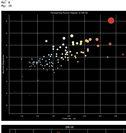


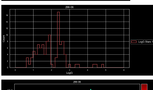


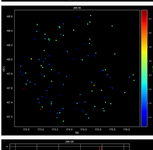
310-00

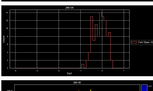
```
main_sequence: 0
binaries: 1
subgiants: 0
red_giants: 0
cluster_age: 100
ref_cutoff: = ref_flux: 81
```

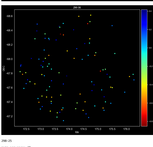
Vx: 0
Vy: 0
Wbg: 0
Wg: 0
Nc: 0











330-25

```
main_sequence: 40
binaries: 1
subgiants: 5
red_giants: 0
cluster_age: 40
ref_cutoff: = ref_flux: 101
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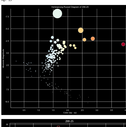
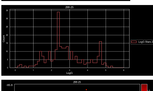
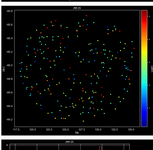
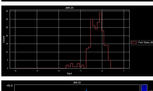
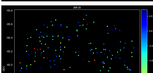
Vx: 12
Vy: 12
Wbg: 0
Wg: 0
Nc: 0

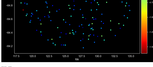






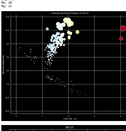


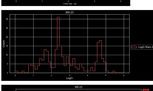


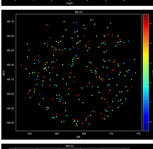


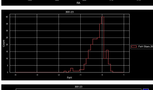
DM-10

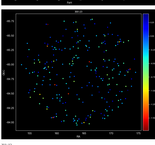
main_parameter: 85
halo_id: 0
subgrid: 1
rad_quantn: 98
rad_type: 0
rad_quantn = rad_clump: 150
Ion: H
Step: 0
Mag: 29
Mp: 29
Mu: 0





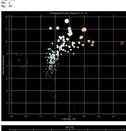


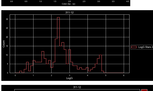


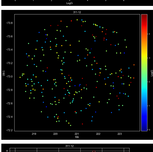


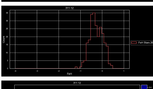
DM-12

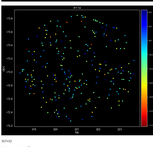
main_parameter: 28
halo_id: 1
subgrid: 1
rad_quantn: 20
rad_type: 0
rad_quantn = rad_clump: 183
Ion: H
Step: 29
Mag: 29
Mp: 29
Mu: 0





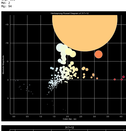


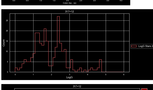


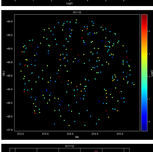


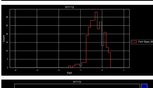
DM-13

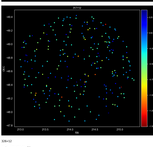
main_parameter: 31
halo_id: 1
subgrid: 1
rad_quantn: 28
rad_type: 0
rad_quantn = rad_clump: 211
Ion: H
Step: 29
Mag: 29
Mp: 29
Mu: 0





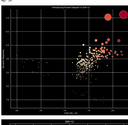


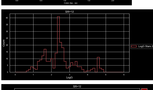


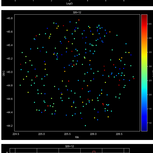


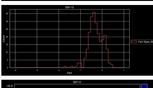
DM-15

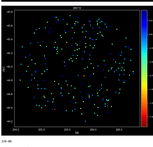
main_parameter: 28
halo_id: 1
subgrid: 1
rad_quantn: 14
rad_type: 0
rad_quantn = rad_clump: 183
Ion: H
Step: 29
Mag: 29
Mp: 29
Mu: 0





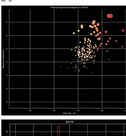


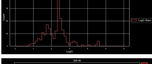


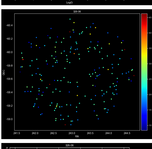


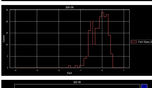
DM-46

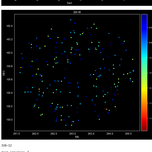
main_parameter: 5
halo_id: 1
subgrid: 1
rad_quantn: 91
rad_type: 0
rad_quantn = rad_clump: 145
Ion: H
Step: 29
Mag: 29
Mp: 29
Mu: 0







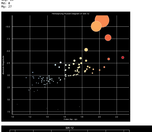


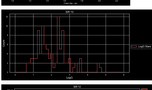


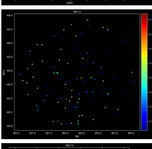
3M-10

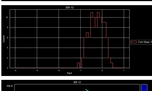
```
main_sequence: 2
turnoff: 4
subgiants: 1
giants: 2
red_giants: 10
red_giants - red_flag: 84

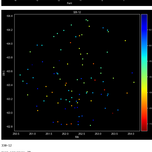
Yes: 8
Maybe: 2
No: 90
Maybe: 2
No: 8
```







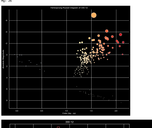


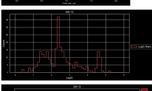


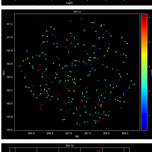
3M-11

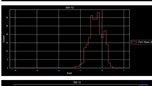
```
main_sequence: 38
turnoff: 6
subgiants: 1
giants: 2
red_giants: 27
red_giants - red_flag: 101

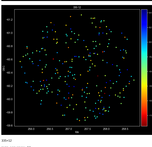
Yes: 6
Maybe: 21
No: 74
Maybe: 21
No: 6
```







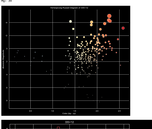


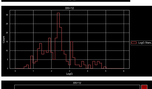


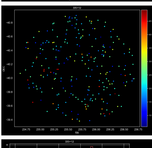
3M-12

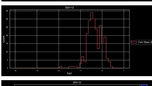
```
main_sequence: 10
turnoff: 4
subgiants: 1
giants: 2
red_giants: 28
red_giants - red_flag: 104

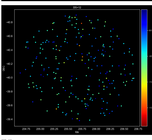
Yes: 10
Maybe: 18
No: 74
Maybe: 18
No: 10
```







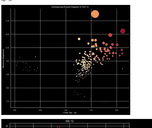


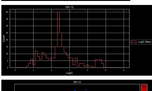


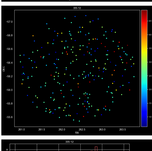
3M-13

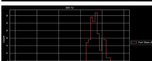
```
main_sequence: 18
turnoff: 6
subgiants: 1
giants: 2
red_giants: 100
red_giants - red_flag: 101

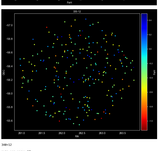
Yes: 6
Maybe: 94
No: 100
Maybe: 94
No: 6
```







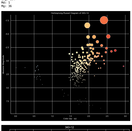


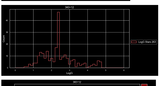


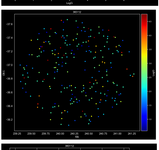
[0001]

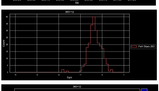
```
main_sequence: 17
mass[0]: 0
mass[1]: 0
subgiants: 26
giants: 0
red_giants: 0
red_clump: 0 red_clump: 198
```

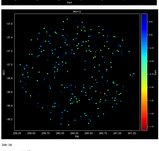
Vr: 0
Vmag: 0
Bmag: 0
Bmv: 0
Mv: 0







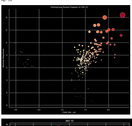


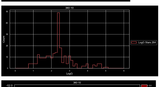


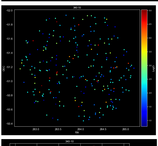
[0002]

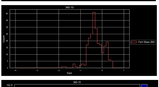
```
main_sequence: 15
mass[0]: 0
mass[1]: 0
subgiants: 0
giants: 0
red_giants: 0
red_clump: 0 red_clump: 186
```

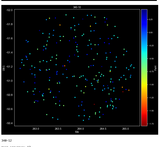
Vr: 0
Vmag: 0
Bmag: 0
Bmv: 0
Mv: 0







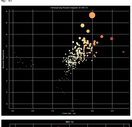


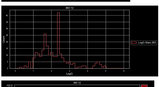


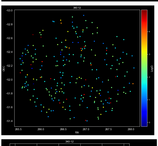
[0003]

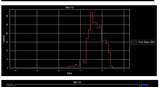
```
main_sequence: 17
mass[0]: 0
mass[1]: 0
subgiants: 0
giants: 0
red_giants: 0
red_clump: 0 red_clump: 195
```

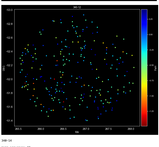
Vr: 0
Vmag: 0
Bmag: 0
Bmv: 0
Mv: 0







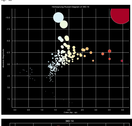


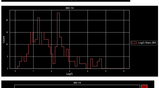


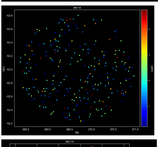
[0004]

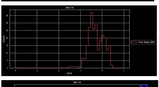
```
main_sequence: 15
mass[0]: 0
mass[1]: 0
subgiants: 0
giants: 0
red_giants: 0
red_clump: 0 red_clump: 215
```

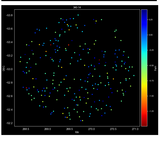
Vr: 0
Vmag: 0
Bmag: 0
Bmv: 0
Mv: 0











disc: 5858

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main_sequence: 814
mass[0]: 0
subgiants: 0
giants: 0
red_giants: 0
Fields: '-1:0+1:0' '-1:1+1:1' '-1:2+1:2' '-1:3+1:3' '-1:4+1:4' '-1:5+1:5' '-1:6+1:6' '-1:7+1:7'
'-1:8+1:8' '-1:9+1:9' '-1:10+1:10' '-1:11+1:11' '-1:12+1:12' '-1:13+1:13' '-1:14+1:14'
'-1:15+1:15'
==========================================================
==========================================================
==========================================================
==========================================================

main_sequence: 97
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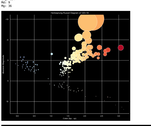
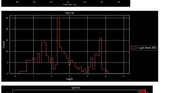
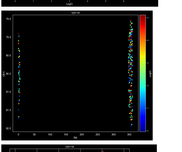
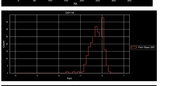
halofit 0
Nbins 100
red_gamma: 200
sub_gamma: 0
red_points = red_clump: 177

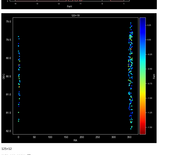
Om: 0
Ob: 0
Omg: 0.4
Omr: 0
Ob: 0
Mu: 0

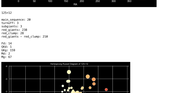


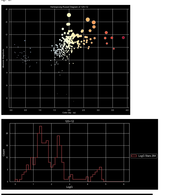








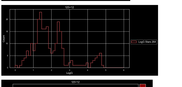


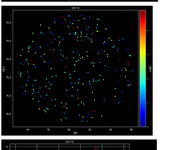


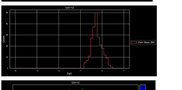
0250/0

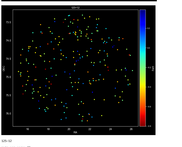
main_separator: 28
halofit 0
Nbins 100
red_gamma: 250
sub_gamma: 0
red_points = red_clump: 238

Om: 0
Ob: 0
Omg: 0.4
Omr: 0
Ob: 0
Mu: 0





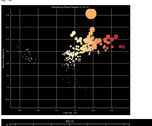


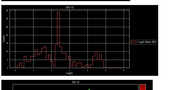


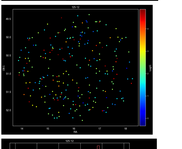
0270/0

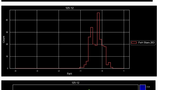
main_separator: 28
halofit 0
Nbins 100
red_gamma: 270
sub_gamma: 0
red_points = red_clump: 301

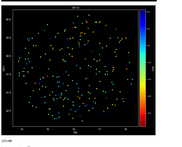
Om: 0
Ob: 0
Omg: 0.4
Omr: 0
Ob: 0
Mu: 0







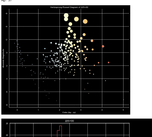


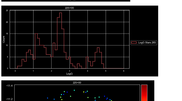


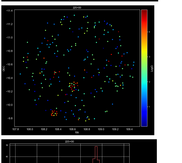
0290/0

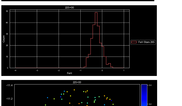
main_separator: 29
halofit 0
Nbins 100
red_gamma: 0
sub_gamma: 0
red_points = red_clump: 347

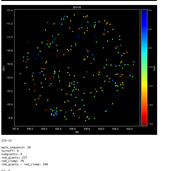
Om: 0
Ob: 0
Omg: 0.4
Omr: 0
Ob: 0
Mu: 0







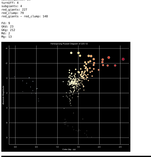


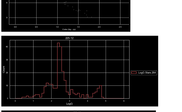


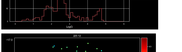
0310/0

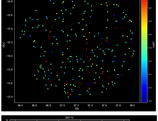
main_separator: 29
halofit 0
Nbins 100
red_gamma: 0
sub_gamma: 0
red_points = red_clump: 148

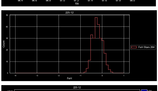
Om: 0
Ob: 0
Omg: 0.4
Omr: 0
Ob: 0
Mu: 0

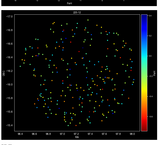








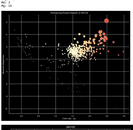


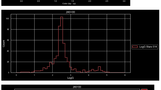


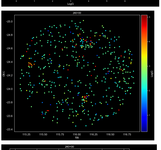
2100:00

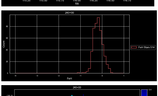
main_sequence: 18
turbulf: 0
subgrafs: 0
rad_grafs: 0
rad_clump: 67
rad_grafs - rad_clump: 384

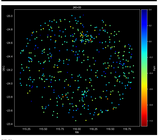
Dir: 10
Mass: 10
Mass: 10
Mg: 0
Mg: 10







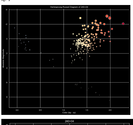


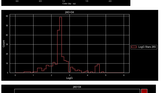


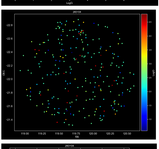
2100:00

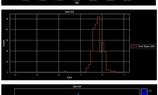
main_sequence: 18
turbulf: 0
subgrafs: 0
rad_grafs: 0
rad_clump: 67
rad_grafs - rad_clump: 340

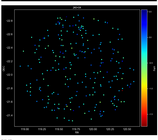
Dir: 10
Mass: 10
Mg: 10
Mg: 0







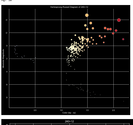


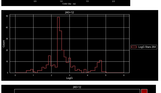


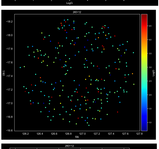
2100:00

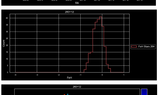
main_sequence: 18
turbulf: 0
subgrafs: 0
rad_grafs: 0
rad_clump: 145
rad_grafs - rad_clump: 145

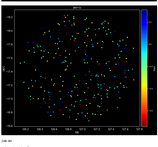
Dir: 0
Mass: 10
Mg: 10
Mg: 0







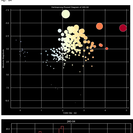


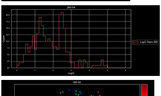


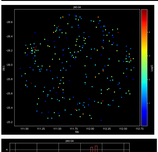
2100:00

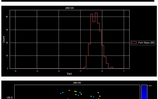
main_sequence: 9
turbulf: 0
subgrafs: 0
rad_grafs: 253
rad_clump: 217
rad_grafs - rad_clump: 217

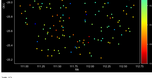
Dir: 0
Mass: 10
Mg: 10
Mg: 0







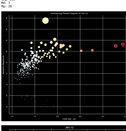


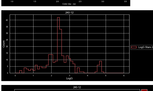


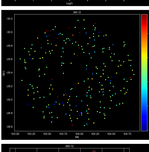
[08-1]

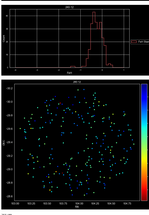
main_sequence: 57
subgiants: 1
red_giants: 0
red_giants: 114
red_giants: 0
red_giants + red_clump: 350

Kp: 8
Mag: 12
Mag: 282
Mv: 4
Mv: 10





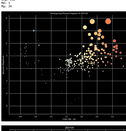


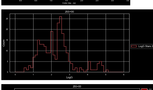


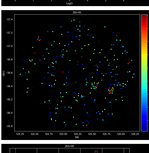
[09-08]

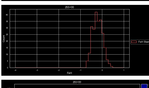
main_sequence: 15
subgiants: 1
subgiants: 0
red_giants: 0
red_giants: 0
red_giants + red_clump: 195

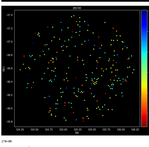
Kp: 2
Mag: 12
Mag: 284
Mv: 4
Mv: 10







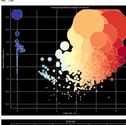


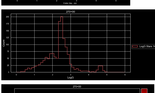


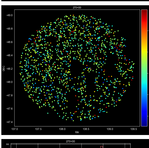
[10-08]

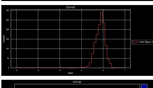
main_sequence: 52
subgiants: 1
subgiants: 1
red_giants: 0
red_giants: 118
red_giants + red_clump: 1898

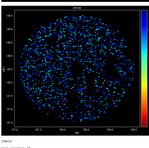
Kp: 8
Mag: 12
Mag: 282
Mv: 4
Mv: 10







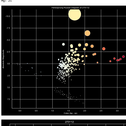


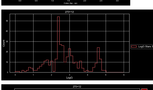


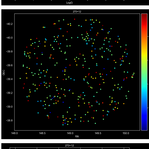
[10-1]

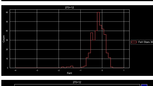
main_sequence: 55
subgiants: 1
subgiants: 1
red_giants: 0
red_giants: 0
red_giants + red_clump: 224

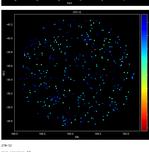
Kp: 8
Mag: 12
Mag: 282
Mv: 4
Mv: 10







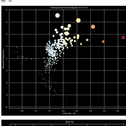


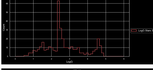


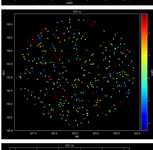
[10-11]

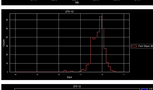
main_sequence: 53
subgiants: 1
subgiants: 0
red_giants: 298
red_giants: 0
red_giants + red_clump: 380

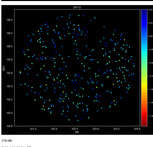
Kp: 8
Mag: 12
Mag: 283
Mv: 4
Mv: 10







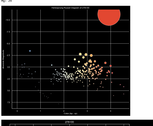


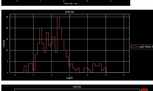


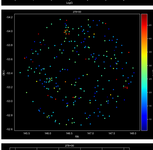
2:0:00

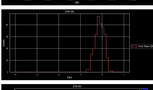
```
main_sequence: 17
turnoff: 0
subgiants: 0
red_giants: 241
horizontal: 0
red_giants - red_clump: 241
```

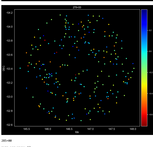
```
Gx: 0
Gy: 0
Mag: 29
Mx: 0
My: 0
```







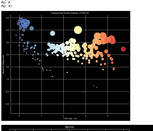


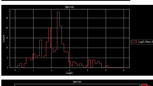


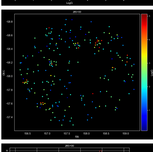
3:0:00

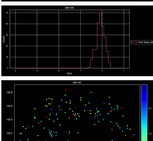
```
main_sequence: 12
turnoff: 0
subgiants: 0
red_giants: 245
horizontal: 0
red_giants - red_clump: 245
```

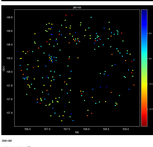
```
Gx: 0
Gy: 0
Mag: 29
Mx: 0
My: 0
```







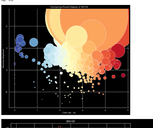


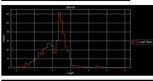


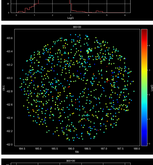
4:0:00

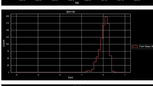
```
main_sequence: 18
turnoff: 0
subgiants: 0
red_giants: 252
red_giants - red_clump: 178
horizontal: 0
```

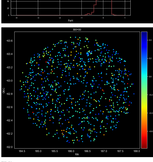
```
Gx: 0
Gy: 0
Mag: 29
Mx: 0
My: 0
```







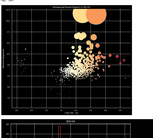


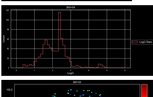


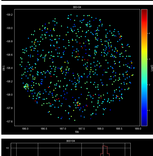
5:0:00

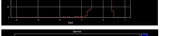
```
main_sequence: 15
turnoff: 0
subgiants: 0
red_giants: 254
horizontal: 0
red_giants - red_clump: 500
```

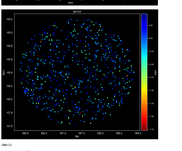
```
Gx: 0
Gy: 0
Mag: 29
Mx: 0
My: 0
```







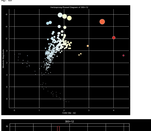


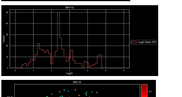


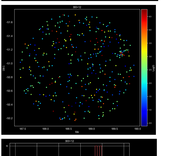
DEM-13

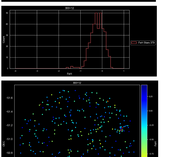
main_sequence: 15
turboFFT: 1
subgraphs: 30
rot_gravity: 0.8
rot_clamp: 90
rot_gravity - rot_clamp: 205

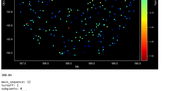
Sun 0
Mon 25
Tue 50
Wed 75
Thu 100

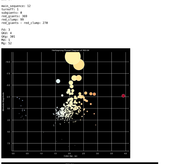








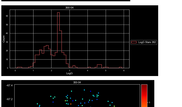


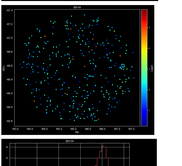


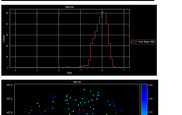
DEM-00

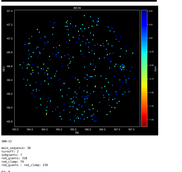
main_sequence: 52
turboFFT: 1
subgraphs: 8
rot_gravity: 90
rot_clamp: 0.8
rot_gravity - rot_clamp: 270

Sun 0
Mon 8
Tue 25
Wed 50
Thu 75





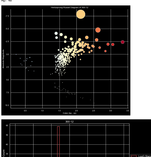


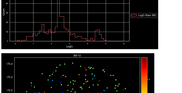


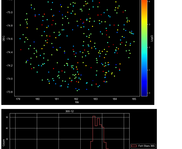
DEM-13

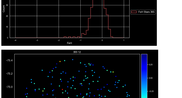
main_sequence: 36
turboFFT: 1
subgraphs: 8
rot_gravity: 318
rot_clamp: 0.8
rot_gravity - rot_clamp: 339

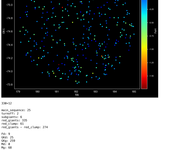
Sun 0
Mon 25
Wed 50
Thu 75







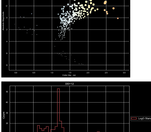


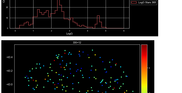


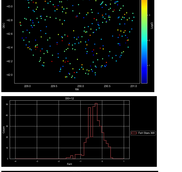
DEM-13

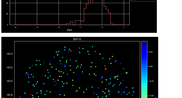
main_sequence: 35
turboFFT: 1
subgraphs: 8
rot_gravity: 205
rot_clamp: 0.8
rot_gravity - rot_clamp: 274

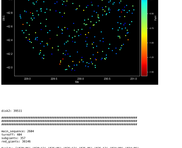
Sun 0
Mon 25
Wed 50
Thu 75











diskl: 0011

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turboFFT: 64
subgraphs: 8
rot_gravity: 32768

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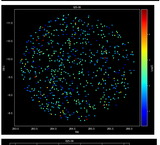
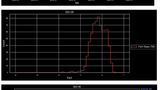
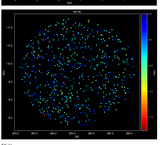


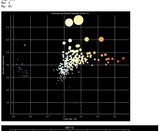


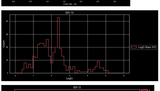


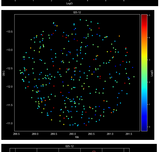
0010-101

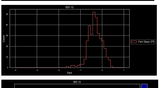
main_sequence: 30
halo: 0
halo_gamma: 0
sat_gamma: 0.5
cut_gamma: 128
sat_frac: 0.1
cut_gamma: - cut_frac: 201

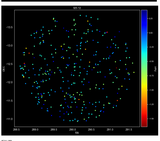
Cl: 0
Ch: 0.5
Mhp: 29
Mhc: 0
Mp: 31







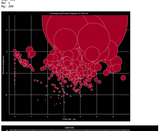


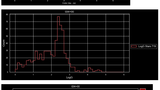


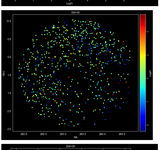
0010-88

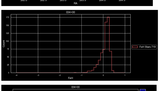
main_sequence: 30
halo: 0
halo_gamma: 0
sat_gamma: 0.5
cut_gamma: 128
sat_frac: 0.1
cut_gamma: - cut_frac: 575

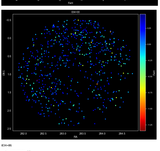
Cl: 0
Ch: 0
Mhp: 60
Mhc: 0
Mp: 60







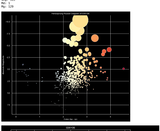


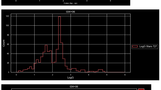


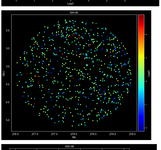
0010-80

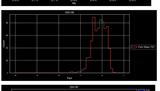
main_sequence: 30
halo: 0
halo_gamma: 0
sat_gamma: 0.5
cut_gamma: 128
sat_frac: 0.1
cut_gamma: - cut_frac: 546

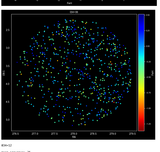
Cl: 0
Ch: 0
Mhp: 60
Mhc: 0
Mp: 60











0010-10

main_sequence: 25
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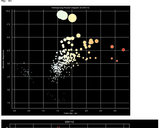
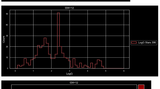
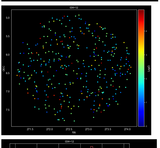
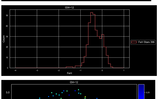
halo_gamma: 0
sat_gamma: 0.5
cut_gamma: 52
sat_frac: 0.1
cut_gamma: - cut_frac: 300

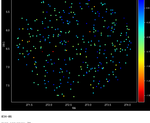
Cl: 0
Ch: 0
Mhp: 29
Mhc: 0
Mp: 29











0240-00

main_sequence: 29
turnoff: 0
subgiants: 1
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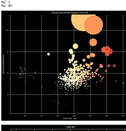
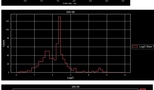
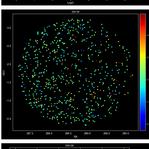
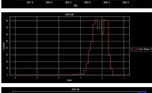
red_clump: 28
red_giants - red_clump: 537

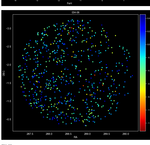
Vr: 0
Mag: 19
Mv: 0.58
Mi: 0







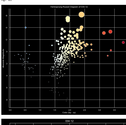


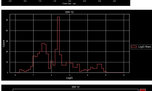


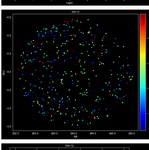
0241-01

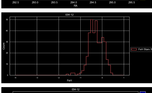
main_sequence: 33
turnoff: 0
subgiants: 0
red_giants: 24
red_clump: 28
red_giants - red_clump: 298

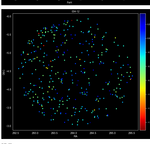
Vr: 0
Mag: 21
Mv: 0.91
Mi: 0







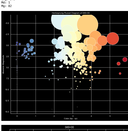


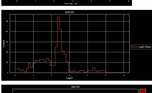


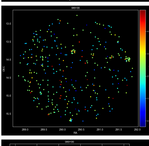
0242-00

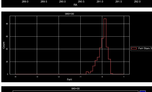
main_sequence: 16
turnoff: 1
subgiants: 0
red_giants: 28
red_clump: 28
red_giants - red_clump: 273

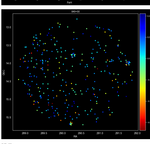
Vr: 0
Mag: 19
Mv: 0.58
Mi: 0







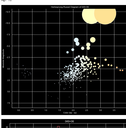


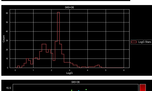


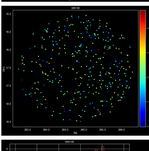
0243-00

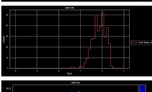
main_sequence: 0
turnoff: 0
subgiants: 1
red_giants: 32
red_clump: 28
red_giants - red_clump: 296

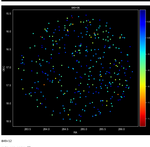
Vr: 0
Mag: 19
Mv: 0.58
Mi: 0







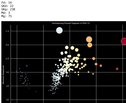


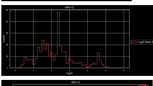


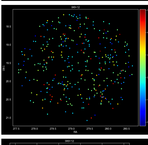
0244-01

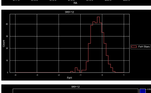
main_sequence: 33
turnoff: 0
subgiants: 1
red_giants: 24
red_clump: 30
red_giants - red_clump: 278

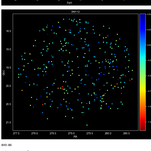
Vr: 0
Mag: 21
Mv: 0.91
Mi: 0







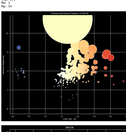


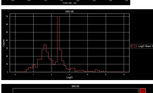


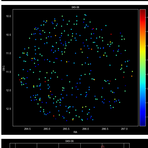
0070-05

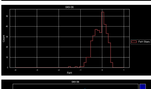
main_sequence: 7
hotspot: 0
subgoals: 4
total_goals: 4
reward: 10
cnt_goals: 4 cnt_time: 274

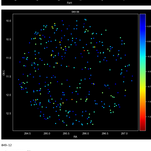
Sta: 0
Obs: 0
Mov: 0
Rot: 0
Ma: 0







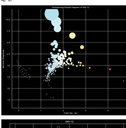


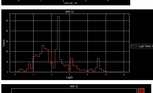


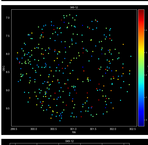
0070-13

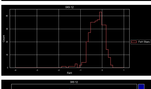
main_sequence: 25
hotspot: 0
subgoals: 4
total_goals: 4
cnt_goals: 4
reward: 10
cnt_goals: 4 cnt_time: 290

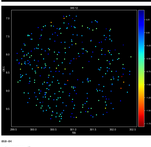
Sta: 0
Obs: 0
Mov: 29
Rot: 0
Ma: 0







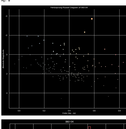


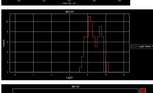


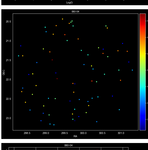
0030-00

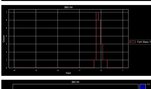
main_sequence: 45
hotspot: 18
subgoals: 4
total_goals: 4
reward: 10
cnt_goals: 4 cnt_time: 74

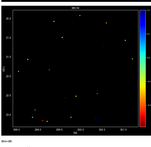
Sta: 0
Obs: 0
Mov: 4
Rot: 0
Ma: 0







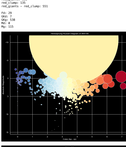


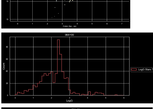


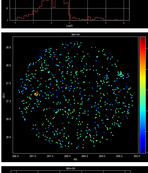
0030-08

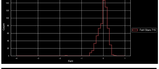
main_sequence: 35
hotspot: 0
subgoals: 4
total_goals: 4
cnt_goals: 4 cnt_time: 555

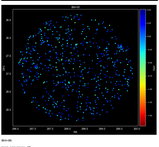
Sta: 0
Obs: 0
Mov: 34
Rot: 0
Ma: 0







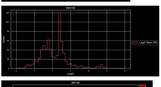


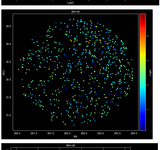


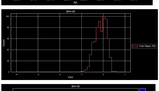
00:00:00

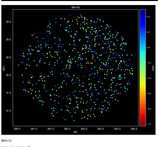
main_sequence: 10
subgenre: 0
subgenre: 0
num_gamma: 427
num_neutron: 0
num_gamma + num_n/num: 517

Fe: 0
Mn: 0
Mg: 263
Si: 0
Ni: 0





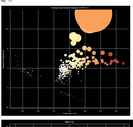


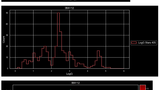


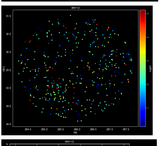
00:00:12

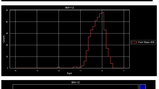
main_sequence: 40
subgenre: 0
subgenre: 0
num_gamma: 0
num_neutron: 18
num_gamma + num_n/num: 291

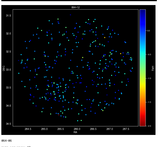
Fe: 11
Mn: 11
Mg: 29
Si: 0
Ni: 0







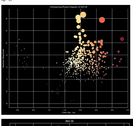


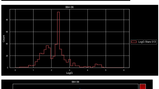


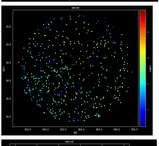
00:01:00

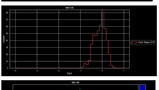
main_sequence: 10
subgenre: 0
subgenre: 0
num_gamma: 0
num_neutron: 182
num_gamma + num_n/num: 182

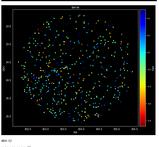
Fe: 0
Mn: 0
Mg: 91
Si: 0
Ni: 0







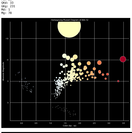


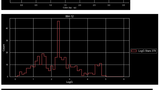


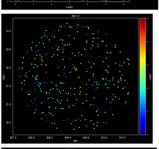
00:01:12

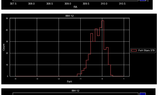
main_sequence: 37
subgenre: 0
subgenre: 0
num_gamma: 0
num_neutron: 370
num_gamma + num_n/num: 370

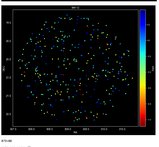
Fe: 0
Mn: 0
Mg: 185
Si: 0
Ni: 0







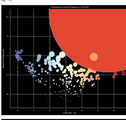


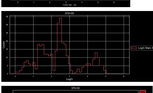


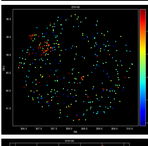
00:01:00

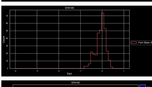
main_sequence: 40
subgenre: 0
subgenre: 0
num_gamma: 0
num_neutron: 267
num_gamma + num_n/num: 267

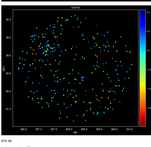
Fe: 0
Mn: 0
Mg: 133
Si: 0
Ni: 0







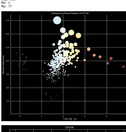


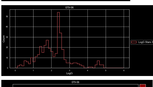


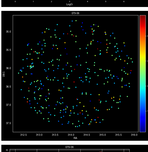
0270-00

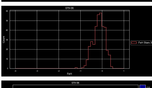
main_sequence: 18
binaries: 0
rejected: 0
red_giants: 90
red_dwarfs: 162
red_giants + red_clump: 293

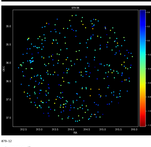
Dec: 0
Ra: 0
Mag: 20
Ra: 0
Mu: 0







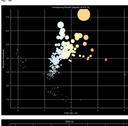


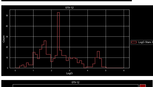


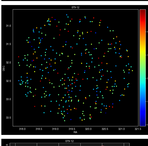
0270-01

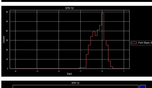
main_sequence: 32
binaries: 0
rejected: 0
red_giants: 93
red_dwarfs: 152
red_giants + red_clump: 272

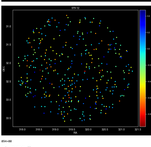
Dec: 0
Ra: 0
Mag: 21
Ra: 0
Mu: 0







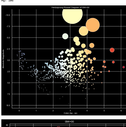


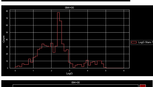


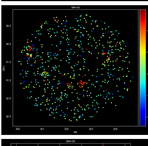
0270-08

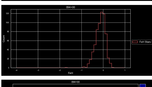
main_sequence: 30
binaries: 0
rejected: 0
red_giants: 64
red_dwarfs: 128
red_giants + red_clump: 524

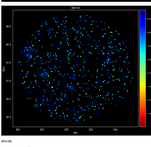
Dec: 0
Ra: 0
Mag: 20
Ra: 0
Mu: 0







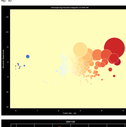


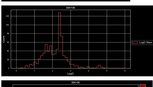


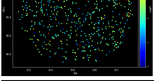
0270-09

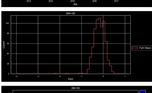
main_sequence: 15
binaries: 0
rejected: 0
red_giants: 15
red_dwarfs: 165
red_giants + red_clump: 541

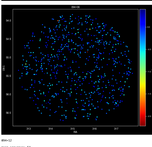
Dec: 0
Ra: 0
Mag: 20
Ra: 0
Mu: 0







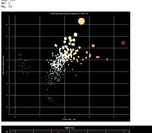


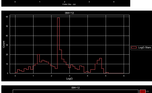


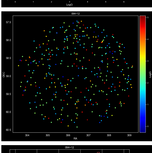
0000-00

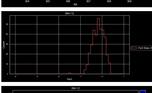
```
main_sequence: 54
turnoff: 0
subgiants: 0
red_giants: 0
red_clump: 38
red_giants + red_clump: 258

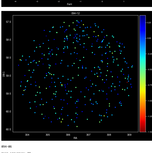
TO: 0
SG: 0
RG: 43
RC: 0
Mg: 0
```







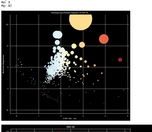


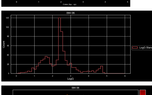


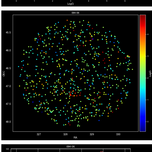
0010-00

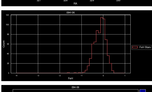
```
main_sequence: 90
turnoff: 0
subgiants: 0
red_giants: 0
red_clump: 165
red_giants + red_clump: 491

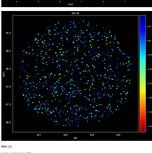
TO: 0
SG: 0
RG: 0
RC: 0
Mg: 0
```







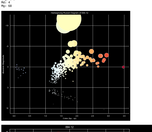


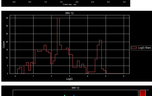


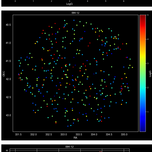
0020-00

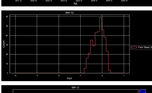
```
main_sequence: 54
turnoff: 0
subgiants: 0
red_giants: 0
red_clump: 214
red_giants + red_clump: 200

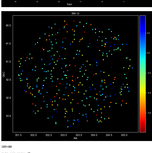
TO: 0
SG: 0
RG: 0
RC: 0
Mg: 0
```







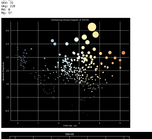


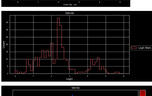


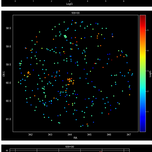
0030-00

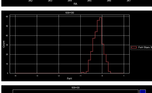
```
main_sequence: 90
turnoff: 0
subgiants: 0
red_giants: 0
red_clump: 241
red_giants + red_clump: 240

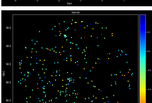
TO: 0
SG: 0
RG: 0
RC: 0
Mg: 0
```







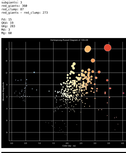


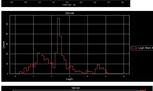


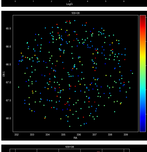
DATA80

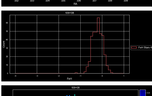
main_sequence: 32
subgiants: 0
subdwarfs: 0
red_giants: 368
red_clump: 0
red_giants - red_clump: 273

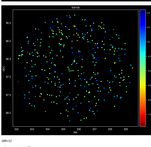
Dec: 0
Ebv: 0.00
Age: 10
Mass: 1.0
Fe: 0.0







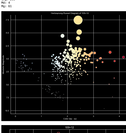


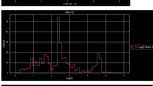


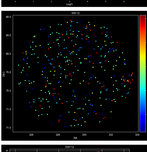
DATA10

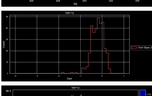
main_sequence: 40
subgiants: 0
subdwarfs: 0
red_giants: 1
red_clump: 0
red_giants - red_clump: 1

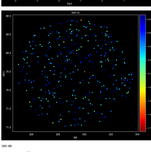
Dec: 0
Ebv: 0.00
Age: 10
Mass: 1.0
Fe: 0.0







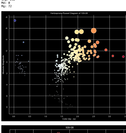


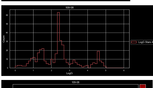


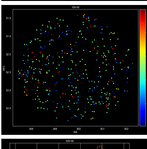
DATA20

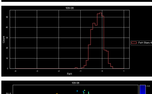
main_sequence: 58
subgiants: 0
subdwarfs: 0
red_giants: 38
red_clump: 0
red_giants - red_clump: 205

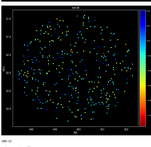
Dec: 0
Ebv: 0.00
Age: 10
Mass: 1.0
Fe: 0.0







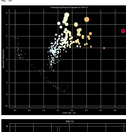


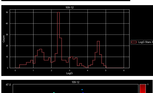


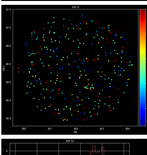
DATA30

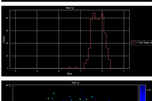
main_sequence: 55
subgiants: 0
subdwarfs: 0
red_giants: 98
red_clump: 0
red_giants - red_clump: 222

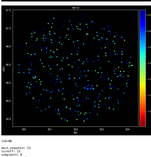
Dec: 0
Ebv: 0.00
Age: 10
Mass: 1.0
Fe: 0.0







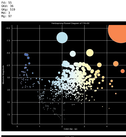


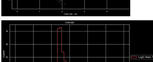


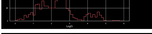
DATA40

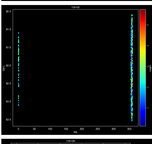
main_sequence: 53
subgiants: 0
subdwarfs: 0
red_giants: 447
red_clump: 0
red_giants - red_clump: 394

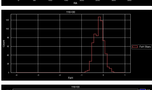
Dec: 0
Ebv: 0.00
Age: 10
Mass: 1.0
Fe: 0.0

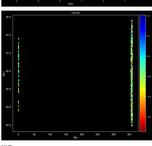




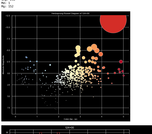


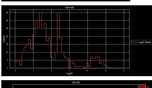


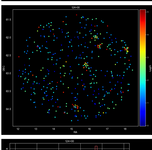


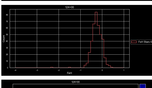


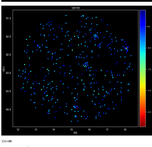
CCD-08
main_sequence: 37
binaries: 0
subgiants: 0
red_giants: 343
total_stars: 380
red_giants - red_clump: 379
Dec: 0
Ra: 30
Mag: 19
Mag: 20
Mu: 50



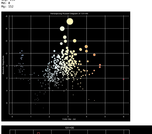


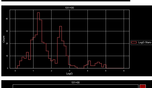


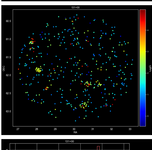


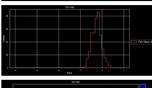


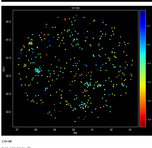
CCD-09
main_sequence: 35
binaries: 0
subgiants: 0
red_giants: 425
total_stars: 460
red_giants - red_clump: 382
Dec: 0
Ra: 30
Mag: 19
Mag: 20
Mu: 50



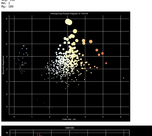


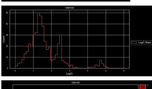


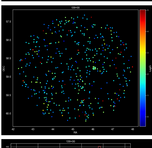


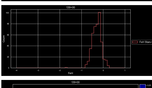


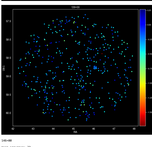
CCD-10
main_sequence: 35
binaries: 0
subgiants: 0
red_giants: 451
total_stars: 486
red_giants - red_clump: 434
Dec: 0
Ra: 30
Mag: 19
Mag: 20
Mu: 50



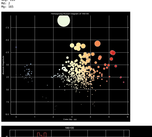


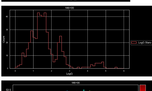


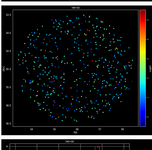


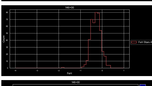


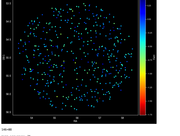
CCD-11
main_sequence: 33
binaries: 0
subgiants: 0
red_giants: 464
total_stars: 497
red_giants - red_clump: 437
Dec: 0
Ra: 30
Mag: 19
Mag: 20
Mu: 50







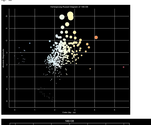


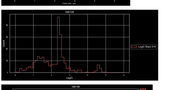


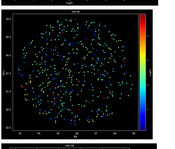
[10:40]

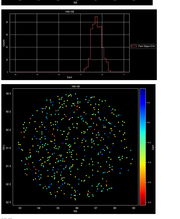
main_separator: 26
subpart: 0
subpartn: 2
cut_points: 97
cut_points: 98
cut_points: + cut_clump: 341

Cx: 4
Cy: 0
Mx: 26
My: 0
Mz: 98





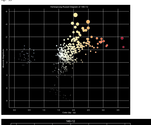


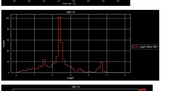


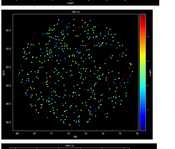
[10:12]

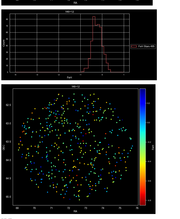
main_separator: 26
subpart: 0
subpartn: 3
cut_points: 465
cut_points: 466
cut_points: + cut_clump: 388

Cx: 4
Cy: 0
Mx: 26
My: 0
Mz: 93





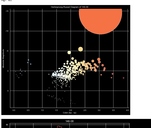


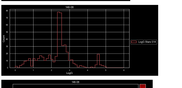


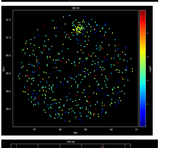
[10:08]

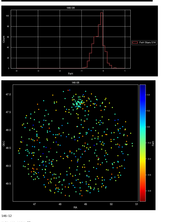
main_separator: 33
subpart: 0
subpartn: 4
cut_points: 419
cut_points: 420
cut_points: + cut_clump: 344

Cx: 0
Cy: 0
Mx: 84
My: 84
Mz: 84





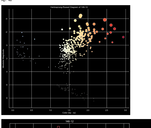


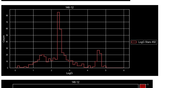


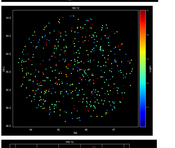
[08:12]

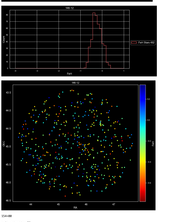
main_separator: 36
subpart: 0
subpartn: 5
cut_points: 614
cut_points: 615
cut_points: + cut_clump: 397

Cx: 0
Cy: 0
Mx: 89
My: 89
Mz: 89





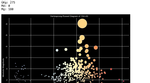


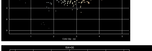


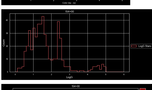
[04:08]

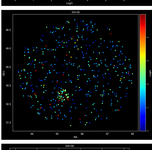
main_separator: 26
subpart: 0
subpartn: 6
cut_points: 465
cut_points: 466
cut_points: + cut_clump: 488

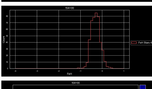
Cx: 4
Cy: 0
Mx: 26
My: 279
Mz: 93
Mz: 186

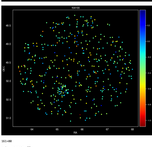








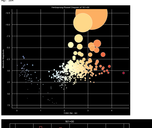


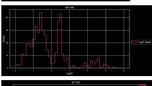


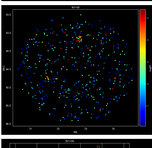
2D1-00

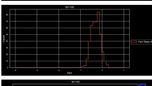
main_sequence: 20
subgalaxy: 0
subgalaxy: 1
mass_ratio: 0.4
rad_ratio: 0.4
rad_frac: 0.4, rad_clump: 500

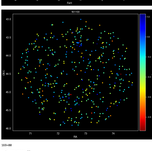
Dx: 20
Dy: 20
Dz: 20
Mmp: 20
Mc: 0
Mg: 80







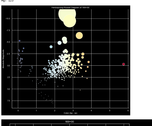


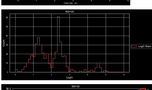


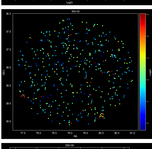
2D1-01

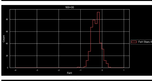
main_sequence: 25
subgalaxy: 0
subgalaxy: 1
mass_ratio: 0.4
rad_ratio: 0.4
rad_frac: 0.4, rad_clump: 300

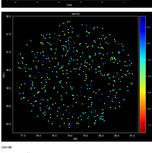
Dx: 20
Dmp: 20
Dz: 20
Mmp: 20
Mc: 0
Mg: 80







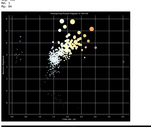


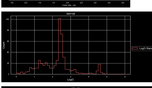


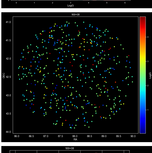
2D1-02

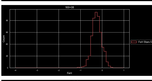
main_sequence: 29
subgalaxy: 0
subgalaxy: 1
mass_ratio: 0.4
rad_ratio: 0.4
rad_frac: 0.4, rad_clump: 125

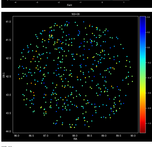
Dx: 20
Dmp: 20
Dz: 20
Mmp: 20
Mc: 0
Mg: 80







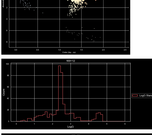


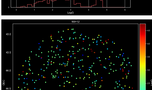


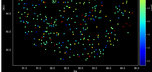
2D1-03

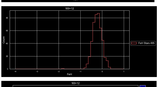
main_sequence: 47
subgalaxy: 0
subgalaxy: 1
rad_frac: 0.4
rad_clump: 125
rad_clump: rad_frac: 270

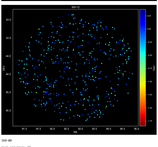
Dx: 20
Dmp: 20
Dz: 20
Mmp: 20
Mc: 0
Mg: 80







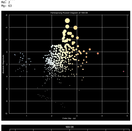


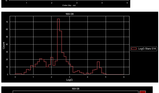


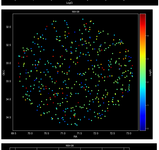
[10:00]

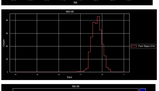
main_sequence: 40
turnoff: 0
subgiants: 0
red_giants: 402
white_dwarfs: 0
red_giants + red_clump: 345

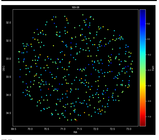
Vx: 0
Vy: 0
Mag: 200
Mx: 0
My: 0







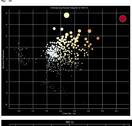


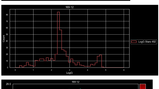


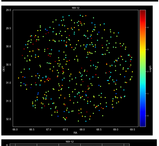
[20:00]

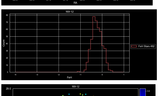
main_sequence: 52
turnoff: 0
subgiants: 0
red_giants: 428
white_dwarfs: 0
red_giants + red_clump: 385

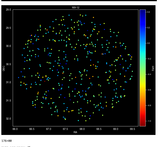
Vx: 0
Vy: 0
Mag: 200
Mx: 0
My: 0







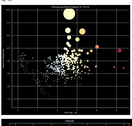


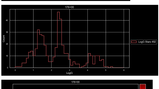


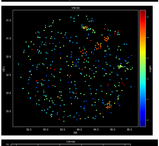
[30:00]

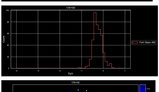
main_sequence: 65
turnoff: 0
subgiants: 0
red_giants: 414
white_dwarfs: 0
red_giants + red_clump: 347

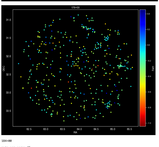
Vx: 0
Vy: 0
Mag: 200
Mx: 0
My: 0







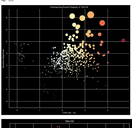


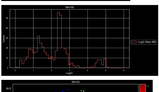


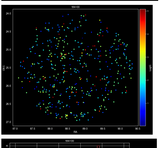
[40:00]

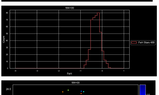
main_sequence: 35
turnoff: 0
subgiants: 0
red_giants: 412
white_dwarfs: 0
red_giants + red_clump: 357

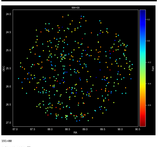
Vx: 0
Vy: 0
Mag: 200
Mx: 0
My: 0









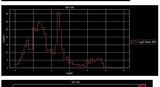


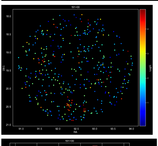
[50:00]

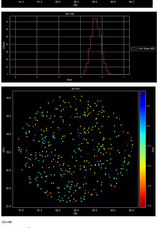
main_sequence: 25
turnoff: 0
subgiants: 0
red_giants: 414
white_dwarfs: 0
red_giants + red_clump: 380

Vx: 0
Vy: 0
Mag: 200
Mx: 0
My: 0

Dec: 0
Mag: 29
Mag: 0
Ra: 0

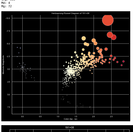


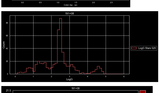


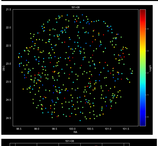


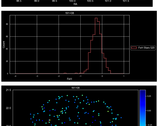
[01:00]

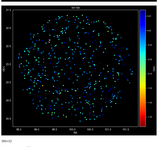
main_sequence: 36
binaryfrac: 1
rot_gamma: 0.5
rot_power: 20
rot_gamma: 0.5
rot_gamma = rot_clump: 242
Dec: 0
Mag: 0
Mag: 29
Ra: 0
Ra: 0





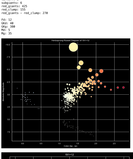


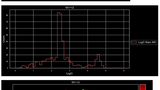


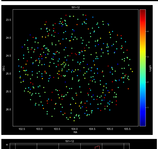


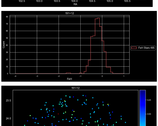
[01:01]

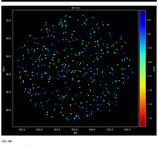
main_sequence: 36
binaryfrac: 1
rot_gamma: 0.5
rot_power: 20
rot_gamma: 0.5
rot_gamma = rot_clump: 278
Dec: 0
Mag: 0
Mag: 29
Ra: 0
Ra: 0





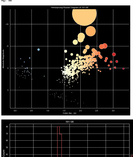


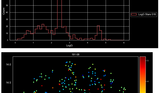


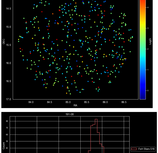


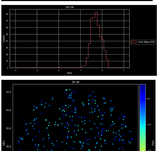
[01:00]

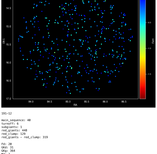
main_sequence: 36
binaryfrac: 1
rot_gamma: 0.5
rot_power: 20
rot_gamma: 0.5
rot_gamma = rot_clump: 322
Dec: 0
Mag: 0
Mag: 29
Ra: 0
Ra: 0





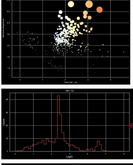


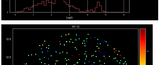


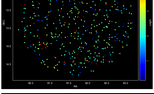


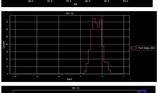
[01:1]

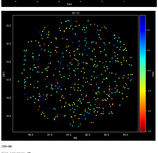
main_sequence: 36
binaryfrac: 1
rot_gamma: 0.5
rot_power: 20
rot_gamma: 0.5
rot_gamma = rot_clump: 319
Dec: 0
Mag: 0
Mag: 29
Ra: 0
Ra: 0







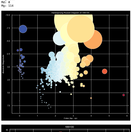


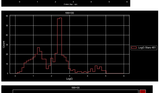


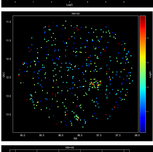
CD0-00

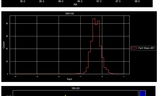
```
main_sequence: 30
subgroup: 1
subgroup: 4
rot_period: 30
rot_clump: 30
rot_points = rot_clump: 150

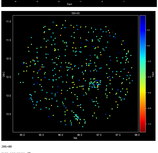
Dec 20
Dec 21
Dec 22
Dec 23
Dec 24
```







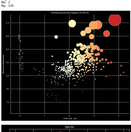


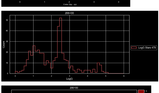


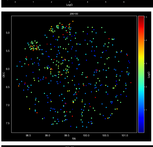
CD0-00

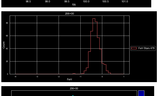
```
main_sequence: 20
subgroup: 1
subgroup: 1
rot_period: 30
rot_clump: 30
rot_points = rot_clump: 154

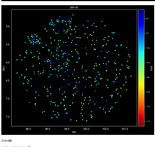
Dec 20
Dec 21
Dec 22
Dec 23
Dec 24
```







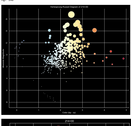


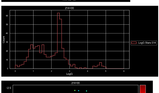


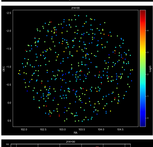
CD0-00

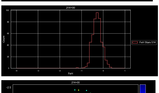
```
main_sequence: 21
subgroup: 1
subgroup: 1
rot_period: 40
rot_clump: 40
rot_points = rot_clump: 300

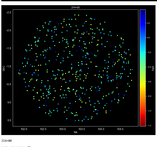
Dec 20
Dec 21
Dec 22
Dec 23
Dec 24
```







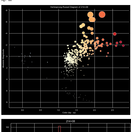


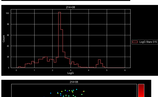


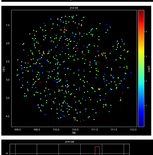
CD0-00

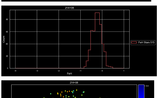
```
main_sequence: 22
subgroup: 1
subgroup: 1
rot_period: 30
rot_clump: 30
rot_points = rot_clump: 150

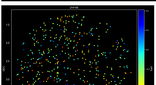
Dec 20
Dec 21
Dec 22
Dec 23
Dec 24
```

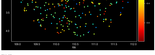








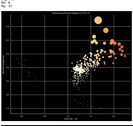


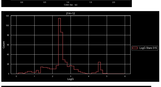


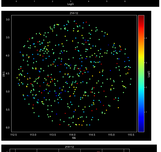
ZCAT

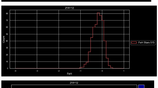
```
main_separator: SC
subgalaxy: 4
subsubgalaxy: 4
red_galaxy: RED
blue_galaxy: BLUE
red_galaxy - blue_galaxy: 287

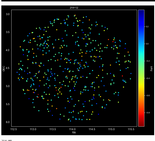
Cl: 1
Ver: 2
Mag: 18
Mag: 21
Ra: 0
```







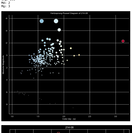


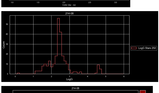


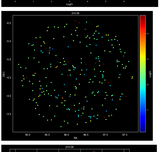
ZCAT-MR

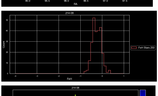
```
main_separator: 31
subgalaxy: 1
subsubgalaxy: 1
red_galaxy: 210
blue_galaxy: 40
red_galaxy - blue_galaxy: 230

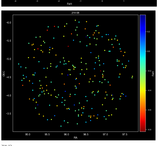
Cl: 4
Ver: 2
Mag: 23
Mag: 27
Ra: 0
```







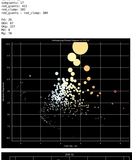


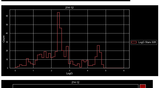


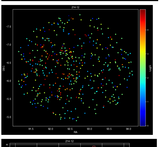
ZCAT-LV

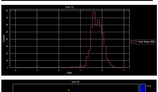
```
main_separator: 57
subgalaxy: 1
subsubgalaxy: 1
red_galaxy: 37
blue_galaxy: 1
red_galaxy - blue_galaxy: 386

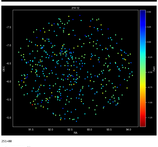
Cl: 2
Ver: 2
Mag: 27
Mag: 31
Ra: 0
```







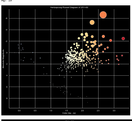


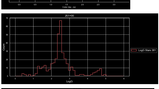


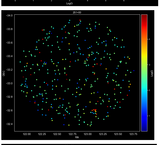
ZCAT-HR

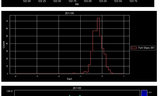
```
main_separator: 38
subgalaxy: 1
subsubgalaxy: 1
red_galaxy: 1
blue_galaxy: 38
red_galaxy - blue_galaxy: 242

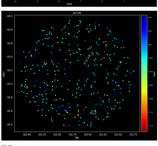
Cl: 1
Ver: 2
Mag: 27
Mag: 31
Ra: 0
```







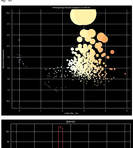


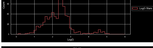


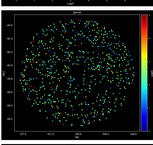
ZCAT-HR

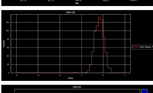
```
main_separator: 29
subgalaxy: 1
subsubgalaxy: 1
red_galaxy: 1
blue_galaxy: 29
red_galaxy - blue_galaxy: 314

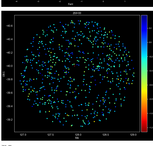
Cl: 1
Ver: 2
Mag: 24
Mag: 28
Ra: 0
```







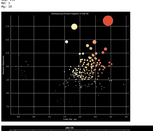


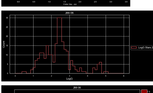


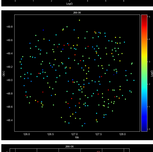
2d-00

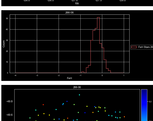
```
main_separator: 10
nsnapfof: 1
nsnapshot: 0
ind_galaxy: 249
ind_halo: 0
ind_galaxy - ind_clump: 331

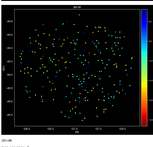
Vol: 0
Mass: 0
Mag: 0.19
Mag: 19
Mg: 19
```







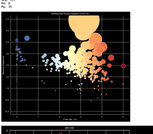


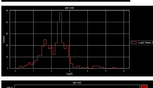


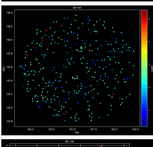
2d-08

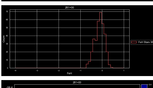
```
main_separator: 0
nsnapfof: 1
nsnapshot: 0
ind_galaxy: 34
ind_halo: 0
ind_galaxy - ind_clump: 292

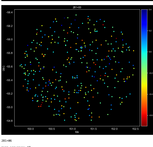
Vol: 0
Mass: 0
Mag: 0.2
Mag: 20
Mg: 20
```







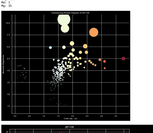


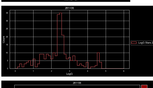


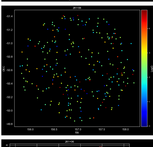
2d-14

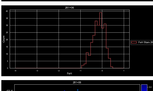
```
main_separator: 10
nsnapfof: 1
nsnapshot: 0
ind_galaxy: 123
ind_halo: 0
ind_galaxy - ind_clump: 179

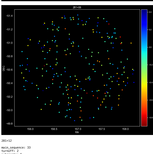
Vol: 0
Mass: 0
Mag: 0.19
Mag: 19
Mg: 19
```







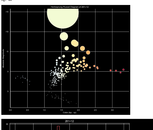


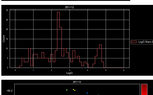


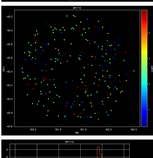
2d-22

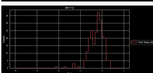
```
main_separator: 22
nsnapfof: 1
nsnapshot: 1
ind_halo: 0
ind_galaxy: 40
ind_galaxy - ind_clump: 108

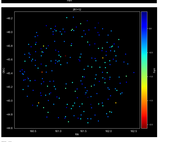
Vol: 0
Mass: 0
Mag: 20
Mg: 20
```







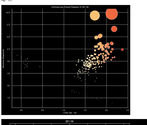


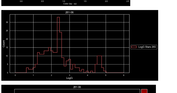


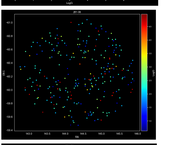
[01:00]

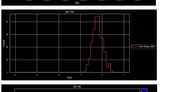
main_sequence: 38
turbulf: 4
subgravity: 1
cut_gravity: 38
cut_clump: 50
cut_gravity + cut_clump: 177

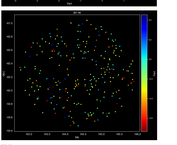
Vol: 2
Mass: 2
Mass: 24
Mass: 0
Mass: 0







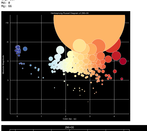


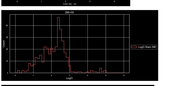


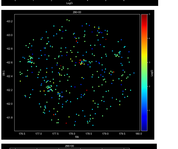
[02:00]

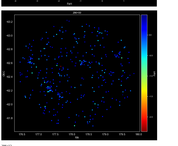
main_sequence: 11
turbulf: 4
subgravity: 1
cut_gravity: 11
cut_clump: 98
cut_gravity + cut_clump: 214

Vol: 16
Mass: 8
Mass: 27
Mass: 0
Mass: 0





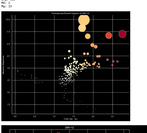


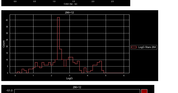


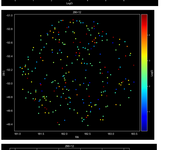
[04:1]

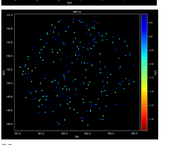
main_sequence: 33
turbulf: 4
subgravity: 1
cut_gravity: 33
cut_clump: 107
cut_gravity + cut_clump: 174

Vol: 2
Mass: 8
Mass: 28
Mass: 0
Mass: 0





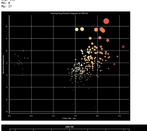


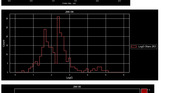


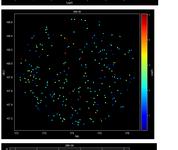
[05:00]

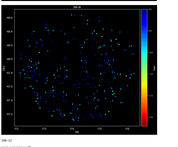
main_sequence: 13
turbulf: 4
subgravity: 1
cut_gravity: 13
cut_clump: 197
cut_gravity + cut_clump: 197

Vol: 2
Mass: 2
Mass: 24
Mass: 0
Mass: 0





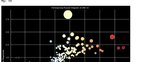


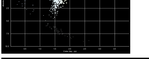


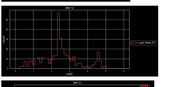
[06:1]

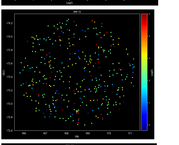
main_sequence: 40
turbulf: 4
subgravity: 1
cut_gravity: 40
cut_clump: 245
cut_gravity + cut_clump: 245

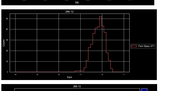
Vol: 2
Mass: 2
Mass: 24
Mass: 0
Mass: 0

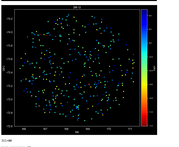








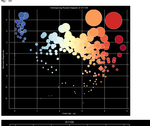


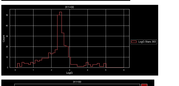


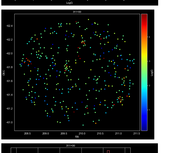
[1:1:0]

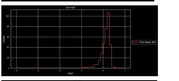
```
main_separator: 17
subgroup: 0
subgroup: 0
red_gamma: 255
red_gamma: 255
red_gamma: - red_clump: 278

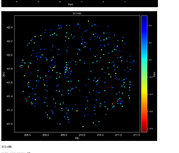
Vol: 10
Ubv: 0
Bmy: 29
Age: 0.9
Mu: 0.
```

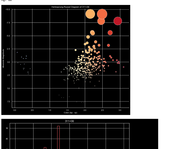








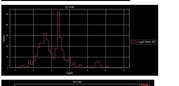


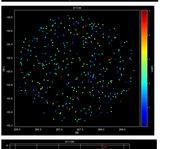


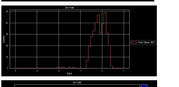
[1:1:0]

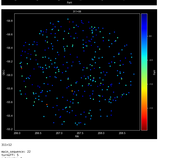
```
main_separator: 15
subgroup: 0
subgroup: 0
red_gamma: 255
red_gamma: 0
red_clump: 0
red_gamma: - red_clump: 288

Vol: 0
Ubv: 0
Bmy: 29
Age: 0.9
Mu: 0.
```



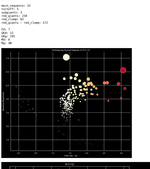


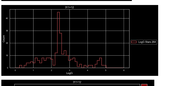


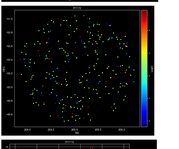
[1:1:1]

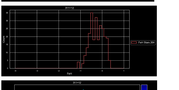
```
main_separator: 22
subgroup: 0
subgroup: 1
red_gamma: 0
red_clump: 0
red_gamma: - red_clump: 172

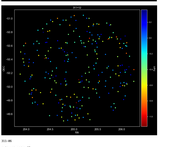
Vol: 0
Ubv: 0
Bmy: 29
Age: 0.
Mu: 0.
```







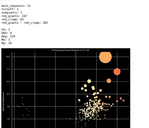


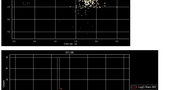


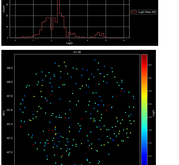
[1:1:0]

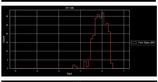
```
main_separator: 15
subgroup: 0
subgroup: 1
red_gamma: 0
red_clump: 0
red_gamma: - red_clump: 185

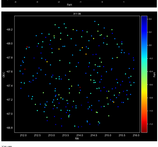
Vol: 0
Ubv: 0
Bmy: 29
Age: 0.
Mu: 0.
```





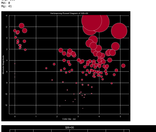


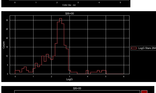


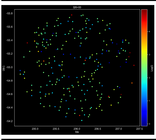


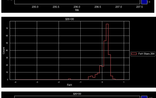
12:0:00

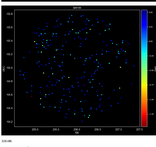
main_sequence: 0
turbulf: 0
turbulf2: 0
rad_gamma: 0.2
rad_kappa: 0.2
rad_gamma = rad_kappa: 203
Vol: 0
Mass: 0
Mmp: 250
Mmg: 0
Mp: 50





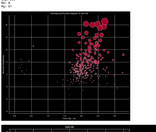


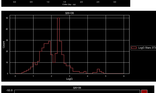


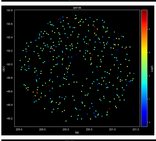


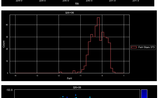
12:0:00

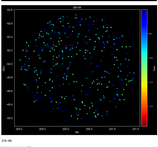
main_sequence: 0
turbulf: 0
turbulf2: 0
rad_gamma: 200
rad_kappa: 200
rad_gamma = rad_kappa: 203
Vol: 0
Mass: 0
Mmp: 250
Mmg: 0
Mp: 50





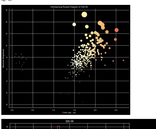


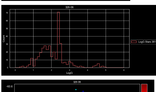


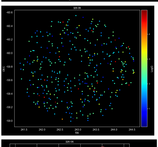


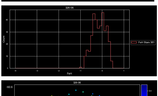
12:0:00

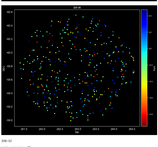
main_sequence: 50
turbulf: 0
turbulf2: 0
rad_gamma: 200
rad_kappa: 200
rad_gamma = rad_kappa: 202
Vol: 0
Mass: 0
Mmp: 250
Mmg: 0
Mp: 50





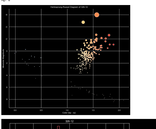


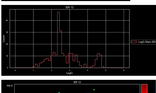


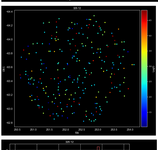


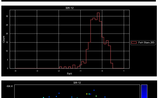
12:0:00

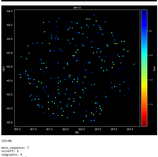
main_sequence: 50
turbulf: 0
turbulf2: 0
rad_gamma: 100
rad_kappa: 100
rad_gamma = rad_kappa: 500
Vol: 0
Mass: 0
Mmp: 250
Mmg: 0
Mp: 0









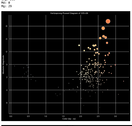


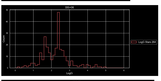
12:0:00

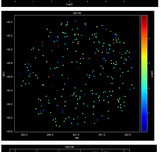
main_sequence: 0
turbulf: 0
turbulf2: 0
rad_gamma: 0.2

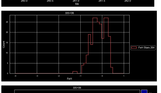
red_clumps: 98
total_clumps: 108

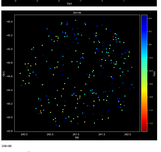
Dec 0
Ebv 0
Age 10.0
Mv 0
Mu 0







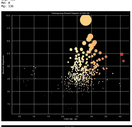


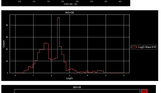


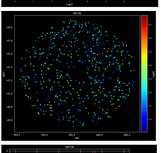
100-80

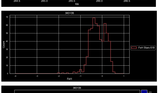
main_sequence: 16
giants: 0
subgiants: 0
red_clumps: 84
total_clumps: 100

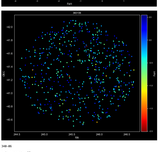
Dec 0
Ebv 0
Age 10.0
Mv 0
Mu 0







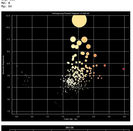


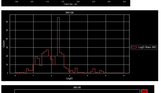


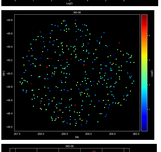
80-60

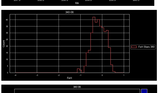
main_sequence: 13
giants: 0
subgiants: 0
red_clumps: 79
total_clumps: 92

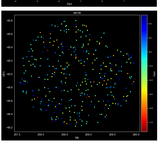
Dec 0
Ebv 0
Age 10.0
Mv 0
Mu 0











setup: GMOS

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

main_sequence: 2888
giants: 2000
subgiants: 218
red_clumps: 2000

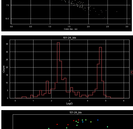
Files: "GM-08_grw" "GM-18_grw" "GM-28_grw" "GM+02_grw" "GM+12_grw"
 "GM-08_grz" "GM+02_grz" "GM+12_grz" "GM+22_grz" "GM+32_grz"
 "GM-08_gri" "GM-18_gri" "GM-28_gri" "GM-38_gri" "GM-48_gri"
 "GM-08_giz" "GM-18_giz" "GM-28_giz" "GM-38_giz" "GM-48_giz"
 "GM-08_grr" "GM-18_grr" "GM-28_grr" "GM+02_grr" "GM+12_grr"
 "GM-08_gri" "GM-18_gri" "GM-28_gri" "GM+02_gri" "GM+12_gri"
 "GM-08_giz" "GM+02_giz" "GM+12_giz" "GM+22_giz" "GM+32_giz"

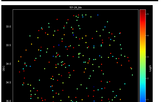
#################################################################
#################################################################
```

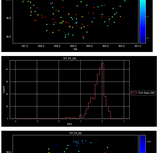
GM-08_grw

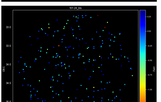
main_sequence: 91
giants: 0
subgiants: 0
red_clumps: 91
total_clumps: 91, clumps: 120

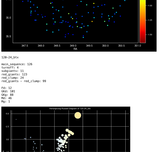
Dec 0
Ebv 0
Age 10.0
Mv 0
Mu 0







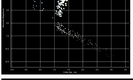


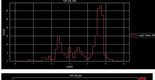


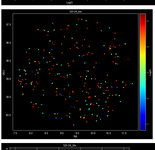
120-16_grw

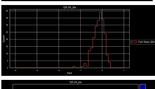
main_sequence: 126
giants: 0
subgiants: 0
red_clumps: 98
total_clumps: 98

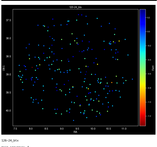
Dec 0
Ebv 0
Age 10.0
Mv 0
Mu 0





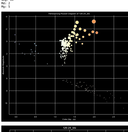


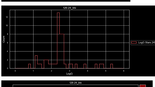


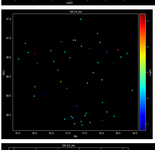


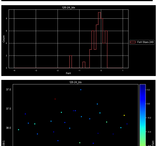
L35-10.pfc

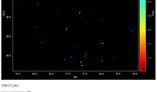
main_sequence: 4
halo_id: 0
subgroup: 0
root_gravity: 200
mass: 1.0e+10
root_gravity - root_flux: 225
Gal: 10
Mag: 0
Mvir: 0
Rvir: 0
Rs: 0





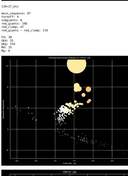


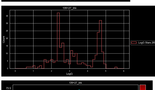


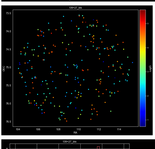


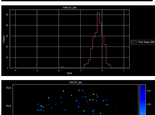
L35-17.pfc

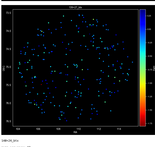
main_sequence: 37
halo_id: 0
subgroup: 0
root_gravity: 200
mass: 1.0e+10
root_gravity - root_flux: 119
Gal: 17
Mag: 0
Mvir: 0
Rvir: 0
Rs: 0





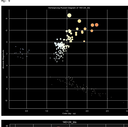


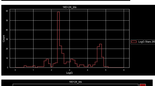


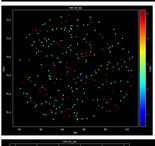


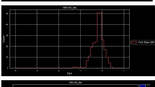
L35-13.pfc

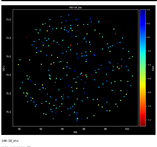
main_sequence: 60
halo_id: 0
subgroup: 0
root_gravity: 200
mass: 1.0e+10
root_gravity - root_flux: 138
Gal: 13
Mag: 0
Mvir: 0
Rvir: 0
Rs: 0







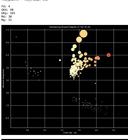


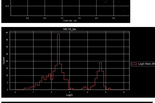


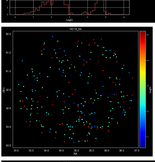
L35-18.pfc

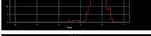
main_sequence: 51
halo_id: 0
subgroup: 0
root_gravity: 200
mass: 1.0e+10
root_gravity - root_flux: 238

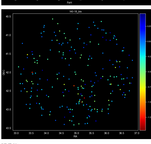
Gal: 8
Mag: 0
Mvir: 0
Rvir: 0
Rs: 0







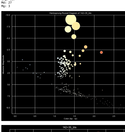


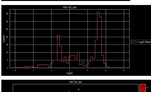


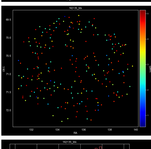
DSC05_2Pc

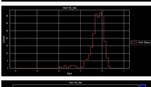
main_sequence: 118
turnoff: 72
subgiants: 0
red_giants: 46
red_clump: 0
red_giants - red_clump: 46

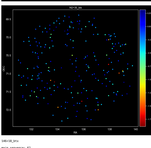
Cu: 0
Mn: 29
Mg: 17
Na: 0
Al: 0







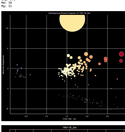


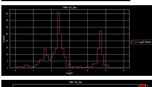


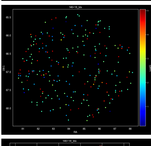
DSC05_2Pc

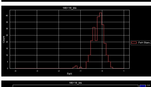
main_sequence: 52
turnoff: 0
subgiants: 0
red_giants: 52
red_clump: 10
red_giants - red_clump: 42

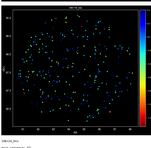
Cu: 0
Mn: 23
Mg: 15
Na: 0
Al: 0







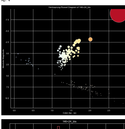


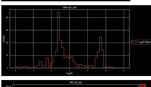


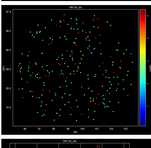
DSC05_2Pc

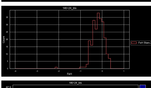
main_sequence: 63
turnoff: 0
subgiants: 0
red_giants: 63
red_clump: 10
red_giants - red_clump: 53

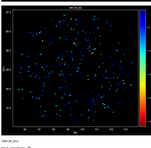
Cu: 0
Mn: 29
Mg: 19
Na: 0
Al: 0







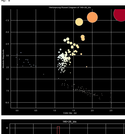


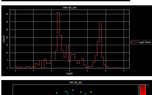


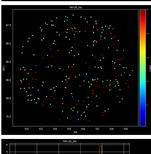
DSC05_2Pc

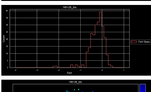
main_sequence: 78
turnoff: 0
subgiants: 0
red_giants: 78
red_clump: 10
red_giants - red_clump: 68

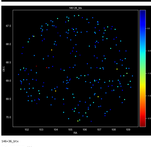
Cu: 0
Mn: 23
Mg: 23
Na: 0







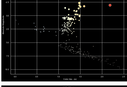


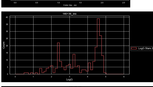


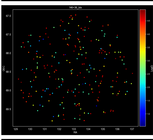
DSC05_2Pc

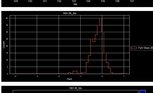
main_sequence: 118
turnoff: 72
subgiants: 0
red_giants: 46
red_clump: 0
red_giants - red_clump: 113

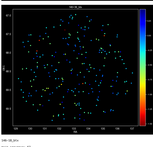
Cu: 0
Mn: 29
Mg: 23
Na: 0
Al: 0







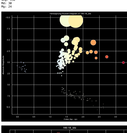


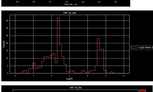


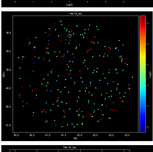
CH-08.pbs

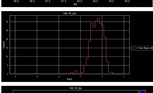
```
main_sequence: 87
subgroup: 1
subgroup: 1
red_giants: 283
red_giants: 1
red_giants - red_clump: 152

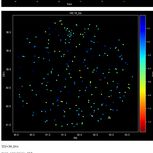
Y1: 0
Y2: 0
Z1: 19
Z2: 19
Mu: 0
```







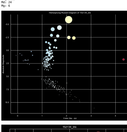


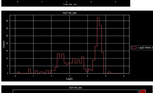


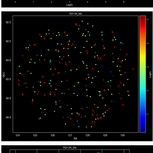
CH-09.pbs

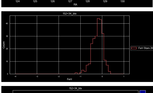
```
main_sequence: 113
subgroup: 1
subgroup: 1
red_giants: 311
red_giants: 28
red_giants - red_clump: 111

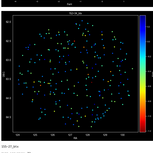
Y1: 0
Y2: 0
Z1: 19
Z2: 19
Mu: 0
```







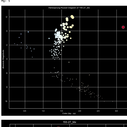


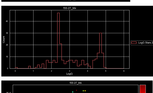


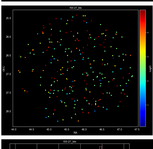
CH-07.pbs

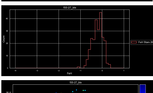
```
main_sequence: 72
subgroup: 1
subgroup: 11
red_giants: 60
red_giants: 1
red_giants - red_clump: 138

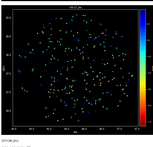
Y1: 0
Y2: 0
Z1: 19
Z2: 19
Mu: 0
```







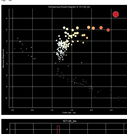


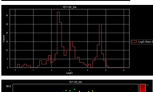


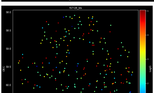
CH-06.pbs

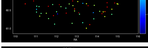
```
main_sequence: 91
subgroup: 1
subgroup: 6
red_giants: 1
red_giants - red_clump: 142

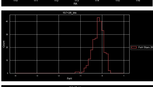
Y1: 0
Y2: 0
Z1: 19
Z2: 19
Mu: 0
```

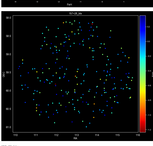








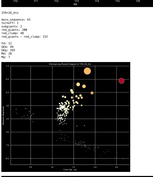


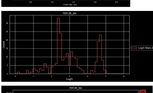


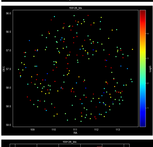
CD9_CR_2rc

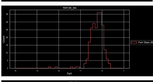
main_subparticle: 61
hydroID: 1
subparticle: 0
cell_index: 48
cell_points: 48
cell_points + cell_clump: 152

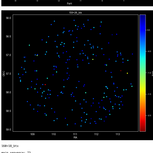
Ox: 0
Oy: 0
Oz: 0
Mx: 29
My: 29
Mz: 29







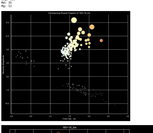


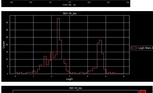


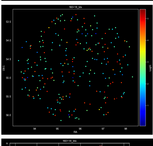
CD9_CR_2rc

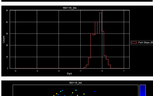
main_subparticle: 75
hydroID: 1
subparticle: 0
cell_index: 148
cell_points: 148
cell_points + cell_clump: 137

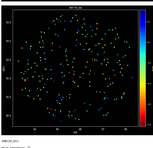
Ox: 0
Oy: 0
Oz: 0
Mx: 29
My: 29
Mz: 29







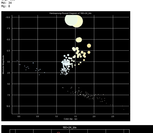


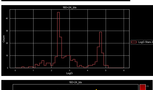


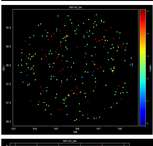
CD9_CR_2rc

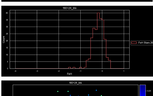
main_subparticle: 71
hydroID: 4
subparticle: 0
cell_index: 48
cell_points: 48
cell_points + cell_clump: 118

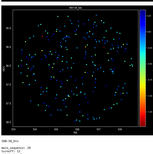
Ox: 0
Oy: 0
Oz: 0
Mx: 29
My: 29
Mz: 29







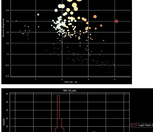


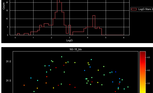


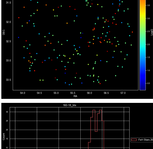
CD9_CR_2rc

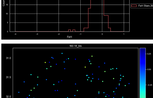
main_subparticle: 35
hydroID: 1
subparticle: 0
cell_index: 48
cell_points: 48
cell_points + cell_clump: 189

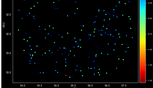
Ox: 0
Oy: 0
Oz: 0
Mx: 29
My: 29
Mz: 29







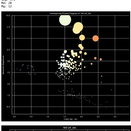


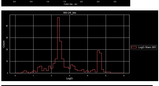


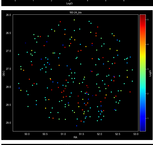
DSN-06.pfc

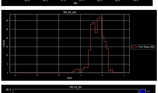
main_sequence: 40
hotspot: 1
subgiants: 0
red_giants: 0
red_clumps: 0
red_giants - red_clump: 147

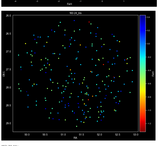
Dec: 0
Ebv: 0.1
Age: 9.3
Mv: 10
Mc: 0







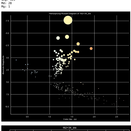


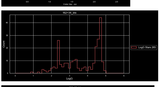


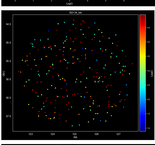
DSN-08.pfc

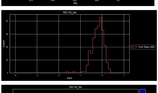
main_sequence: 113
hotspot: 0
subgiants: 38
red_giants: 27
red_clumps: 27
red_giants - red_clump: 187

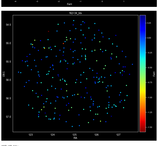
Dec: 0
Ebv: 0.1
Age: 9.3
Mv: 10
Mc: 0







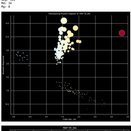


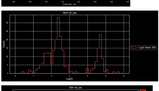


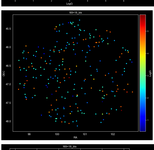
DSN-09.pfc

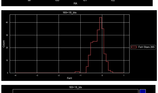
main_sequence: 92
hotspot: 0
subgiants: 4
red_giants: 98
red_clumps: 98
red_giants - red_clump: 148

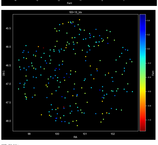
Dec: 0
Ebv: 0.1
Age: 9.3
Mv: 10
Mc: 0







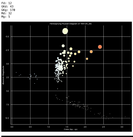


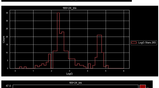


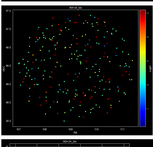
DSN-10.pfc

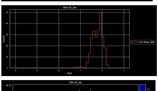
main_sequence: 84
hotspot: 1
subgiants: 0
red_giants: 52
red_clumps: 52
red_giants - red_clump: 145

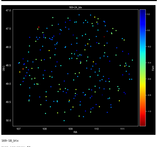
Dec: 0
Ebv: 0.1
Age: 9.3
Mv: 10
Mc: 0







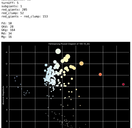


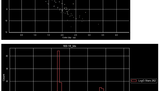


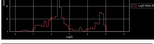
DSN-11.pfc

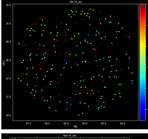
main_sequence: 51
hotspot: 0
subgiants: 0
red_giants: 193
red_clumps: 193
red_giants - red_clump: 333

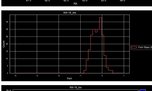
Dec: 0
Ebv: 0.1
Age: 9.3
Mv: 10
Mc: 0

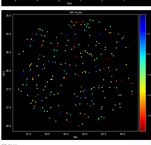












1200_01.pcc

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main_separator: 50
subgroups: 10
sub_separator: 50
sub_subgroups: 10
red_clumps = red_clump: 122

Sig: 0
Amp: 50
Mag: 150
Per: 50
No: 50
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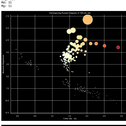

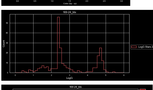

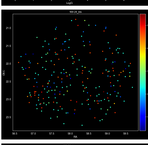

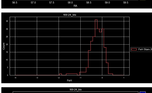

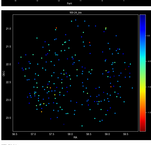

1700_01.pcc

```
main_separator: 112
subgroups: 10
sub_separator: 30
sub_subgroups: 10
red_clumps = red_clump: 122

Sig: 0
Amp: 50
Mag: 150
Per: 50
No: 50
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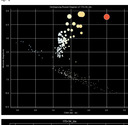
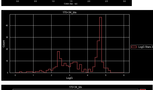
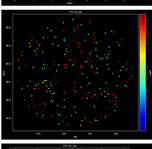
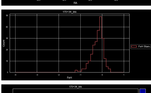
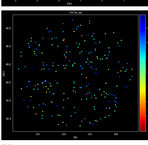






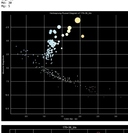


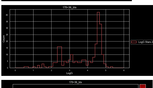


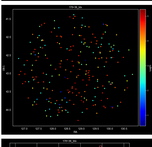
1700_02.pcc

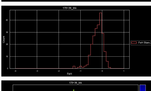
```
main_separator: 110
subgroups: 10
sub_separator: 10
sub_subgroups: 10
red_clumps = red_clump: 98

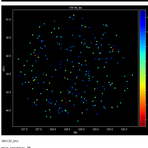
Sig: 0
Amp: 50
Mag: 150
Per: 50
No: 50
```











1800_02.pcc

```
main_separator: 90
subgroups: 10
sub_separator: 10
sub_subgroups: 10
red_clumps = red_clump: 112

Sig: 0
Amp: 50
Mag: 150
Per: 50
No: 50
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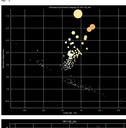
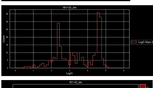
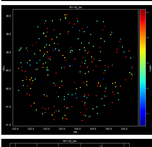
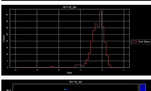
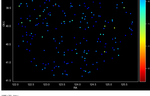






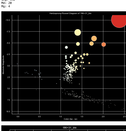


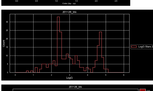


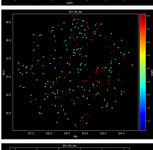
DEV-CR_pfx

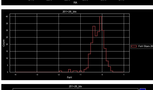
main_sequence: 80
turnoff: 0
subgiants: 0
red_giants: 78
clump: 0
red_giants - red_clump: 130

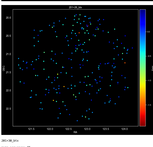
Gal: 0
Mag: 19
Mag: 20
No: 0

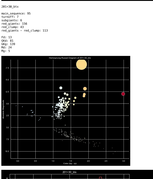

Theoretical Isochrones and Observed Stars
Log(Age) [Yr]
Log(Age) [Yr]
Log(Age) [Yr]

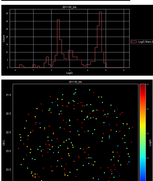

Log2 Gain Dif

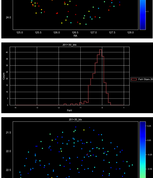


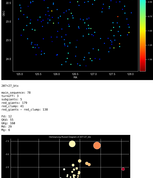

Cut Gain Dif

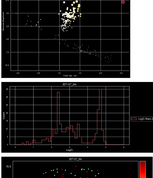


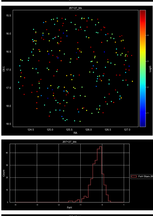


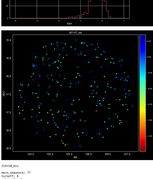


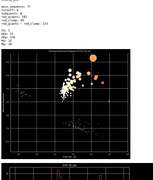


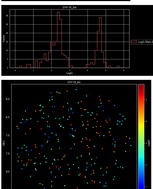


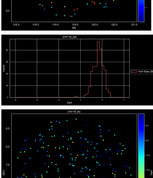


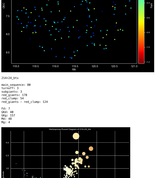


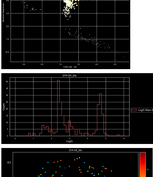


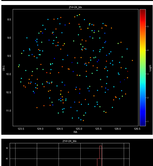






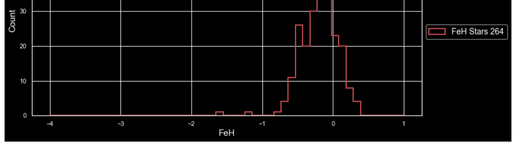


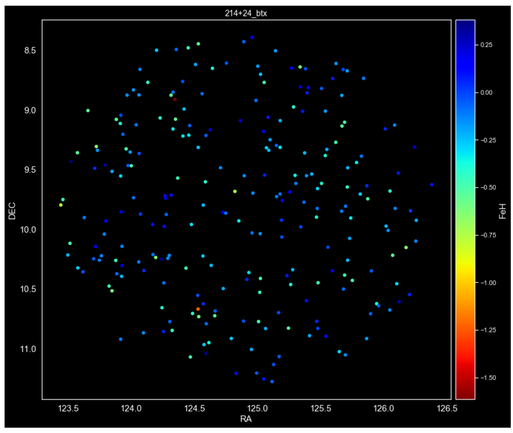




Log2 Gain Dif

Cut Gain Dif






```
232+30_btx

main_sequence: 92
turnoff: 7
subgiants: 7
red_giants: 158
red_clump: 45
red_giants - red_clump: 113

Fd: 14
GKd: 76
GKg: 139
Md: 30
Mg: 5
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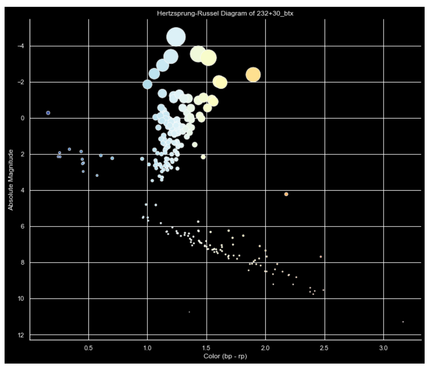

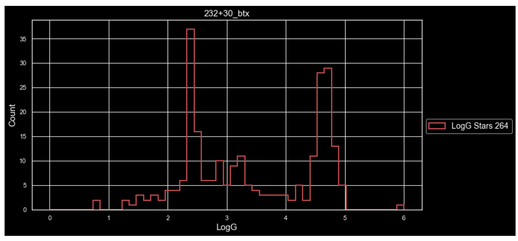

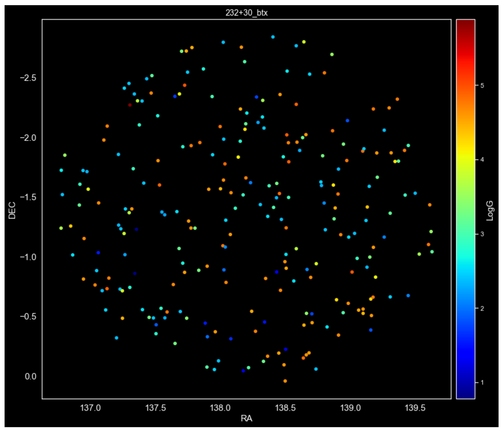

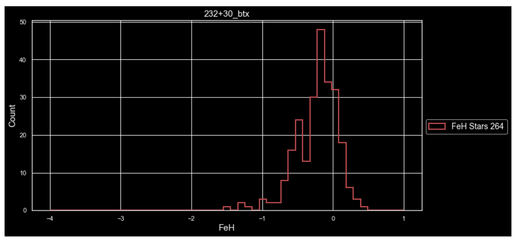

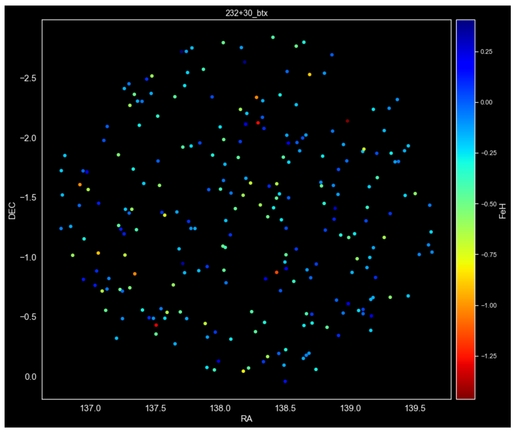


```
Done!
```

In [2]: