```
Python 3.7.8 (default, Jul 28 2020, 07:20:03)
[GCC 9.3.0 20200312 (Red Hat 9.3.0-2)] on linux2
Type "help", "copyright", "credits" or "license" for more information.
IPython 7.5.0 -- An enhanced Interactive Python.

In [1]: runfile('/home/jonathanrosie/Apogee By Programmer Dup', wdir='/home/jonathanrosie')
/home/jonathanrosie/apogee/models/kurucz
Using matplotlib backend: Qt5Agg

Class 01: G2
Class 02: G5
Class 03: G8V
Class 04: K2V
Class 05: K5V
Class 06: K7V
Class 07: M3V
Class 08: M6V
Class 09: M9V
Class 10: DZ8

Fe: 42212
Mg: 12146
Si: 14028
Ca: 20422
Ni: 28011

All: Stars 47387

Mn: Stars 5736

Fe_a: Stars 9258
Fe_b: Stars 9258
Fe_c: Stars 9258
Fe_d: Stars 9258

SiM_a: Stars 20894
SiM_b: Stars 20894
SiM_c: Stars 20894
SiM_d: Stars 12953

CaM_a: Stars 19828
CaM_b: Stars 19828
CaM_c: Stars 19828
CaM_d: Stars 19828

Mg_a: Stars 5224
Mg_b: Stars 7925
Mg_c: Stars 7925
Mg_d: Stars 7925

Mg_a: Stars 21268
Mg_b: Stars 21268
Mg_c: Stars 21268
Mg_d: Stars 21268

Fields: ['SNR0-00' 'SNR0-02' 'SNR0-03' ... 'moving_groups' 'rv/pc' 'rv']

Mg2mr: 22719
mean_sequence: 525
subgiants: 27
red_giants: 1882

co_dwarf: 8361
mean_sequence: 1887
subgiants: 84
red_giants: 5129

Na2si: 17614
mean_sequence: 4876
turnoff: 2956
subgiants: 84
red_giants: 5129

Na2si: 3961
mean_sequence: 1962
turnoff: 56
subgiants: 84
red_giants: 1580

Na2si_dwarf: 1767
mean_sequence: 1683
turnoff: 84
subgiants: 0
red_giants: 1411

Na2si_clean: 7736
mean_sequence: 2000
turnoff: 1876
subgiants: 0
red_giants: 3453

Na2si_dwarf: 1767
mean_sequence: 1683
turnoff: 84
subgiants: 0
red_giants: 1411

Na2si_clean: 7736
mean_sequence: 2000
turnoff: 1876
subgiants: 0
red_giants: 3453

Ca2si: 30211
mean_sequence: 7984
turnoff: 56
subgiants: 27
red_giants: 5129

Ca2si: 10878
mean_sequence: 2888
turnoff: 56
subgiants: 27
red_giants: 1882

Ca2si: 5721
mean_sequence: 53
turnoff: 56
subgiants: 0
red_giants: 5129

Ca2si_dwarf: 2882
mean_sequence: 75
turnoff: 56
subgiants: 0
red_giants: 1411

Ca2si_clean: 2882
mean_sequence: 75
turnoff: 56
subgiants: 0
red_giants: 1411

Ca2si_clean: 5721
mean_sequence: 53
turnoff: 56
subgiants: 0
red_giants: 5129

Ca2si_dwarf: 2882
mean_sequence: 75
turnoff: 56
subgiants: 0
red_giants: 1411

Ca2si_clean: 5721
mean_sequence: 53
turnoff: 56
subgiants: 0
red_giants: 5129

cluster_gc: 9467
mean_sequence: 2188
turnoff: 56
subgiants: 27
red_giants: 6278

cluster_gc: 2181
mean_sequence: 1174
turnoff: 56
subgiants: 27
red_giants: 1219

cluster_gc: 967
mean_sequence: 1174
turnoff: 56
subgiants: 27
red_giants: 52

cluster_gc: 1174
mean_sequence: 1174
turnoff: 56
subgiants: 27
red_giants: 1219

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mean_sequence: 1174
turnoff: 56
subgiants: 27
red_giants: 1219

cluster_gc: 967
mean_sequence: 1174
turnoff: 56
subgiants: 27
red_giants: 52

clusters_gc: 967
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turnoff: 56
subgiants: 27
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clusters_gc: 967
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clusters_gc: 967
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red_giants: 52

clusters_gc: 967
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turnoff: 56
subgiants: 27
red_giants: 52

cluster_gc: 1168
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turnoff: 56
subgiants: 27
red_giants: 52

Mg2Si2ti: 7431
mean_sequence: 1817
turnoff: 148
subgiants: 0
red_giants: 5262

Si: 1168
mean_sequence: 513
turnoff: 148
subgiants: 0
red_giants: 1168

Si_dtc: 208
mean_sequence: 28
turnoff: 0
subgiants: 0
red_giants: 124

Mg_amber: 13512
mean_sequence: 3353
turnoff: 1301
subgiants: 0
red_giants: 8224

Mg_dwarf: 1168
mean_sequence: 153
subgiants: 0
red_giants: 1168

Mg_dwarf: 1168
mean_sequence: 153
subgiants: 0
red_giants: 1168

Mg_dwarf: 945
mean_sequence: 0
turnoff: 0
subgiants: 0
red_giants: 945

Mg_dwarf: 945
mean_sequence: 0
turnoff: 0
subgiants: 0
red_giants: 945

Ca: 1168
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red_giants: 1168
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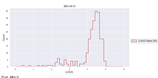
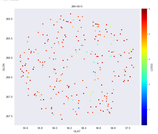
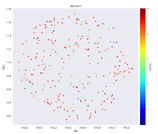
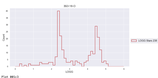


Plot BM1-O







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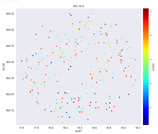
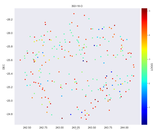
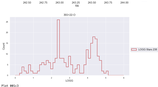
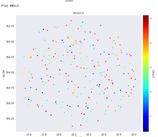
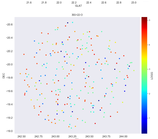


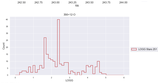




Plot BM3-O







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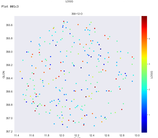
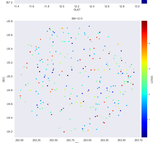
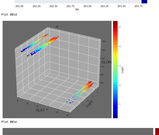




Plot BM5a



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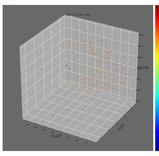
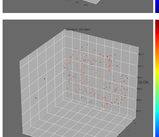
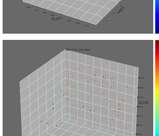
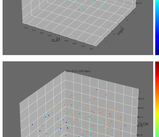
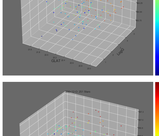


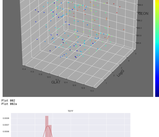




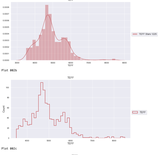


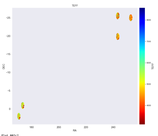


Plot BM2
Plot BM4

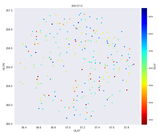


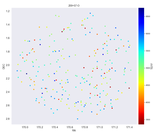
Plot BM6b

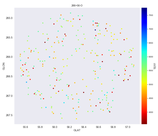


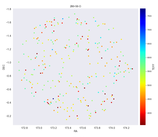


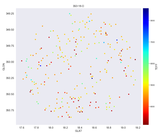
Plot 2D:J

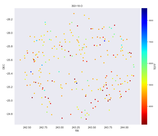


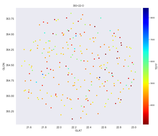


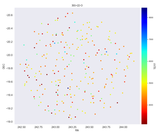












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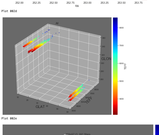

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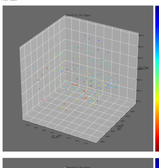
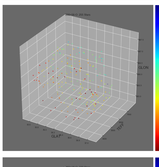
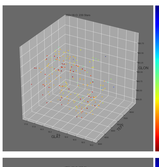
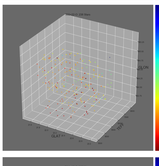
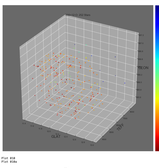


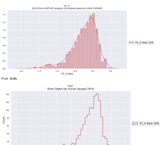






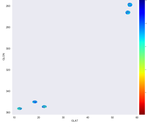


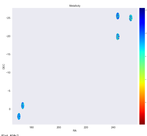
Plot 2D:



Plot 2D:

Plot 3D:





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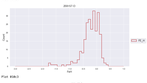

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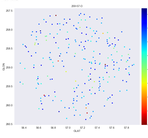
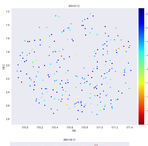
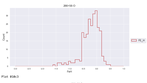
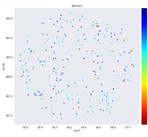
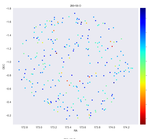


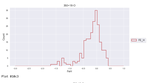




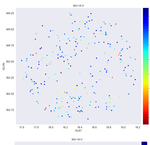
Plot Hist-3

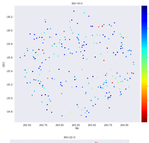


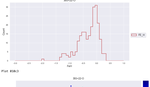




Plot Hist-3







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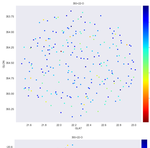

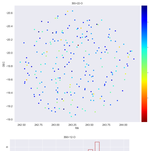

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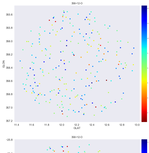

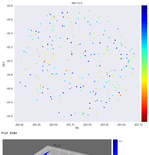

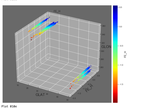

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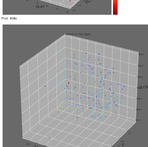

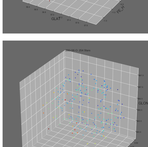

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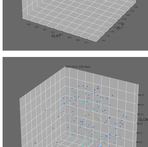

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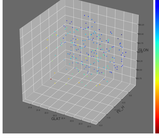
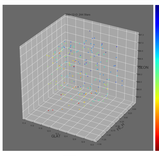
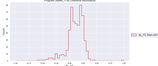

Y_Pt
Z_Pt
X_Pt


Y_Pt
Z_Pt
X_Pt

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
AL_PS
AL_PS Data (M)


AL_PS
AL_PS Data (M)

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
Z_PS
Z_PS Data (M)

Z_PS
Z_PS Data (M)

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
CH_PS
CH_PS Data (M)

CH_PS
CH_PS Data (M)

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
CE_PS
CE_PS Data (M)

CE_PS
CE_PS Data (M)

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
CL_PS
CL_PS Data (M)

CL_PS
CL_PS Data (M)

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
CE_PS Data (ST)
CE_PS

CE_PS
CE_PS Data (ST)

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
CR_PS
CR_PS Data (M)

CR_PS
CR_PS Data (M)

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
CO_PS Data (M)
CO_PS

CO_PS
CO_PS Data (M)

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
X_PS Data (M)
X_PS

X_PS
X_PS Data (M)

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
MN_PS Data (ST)
MN_PS

MN_PS
MN_PS Data (ST)

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
N_PS Data (M)
N_PS

N_PS
N_PS Data (M)

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
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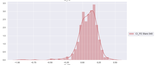
NA_PS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NA_PS Data (ST)

Part Inputs
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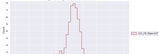
NI_PS Data (M)
NI_PS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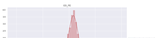
NI_PS Data (M)

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
O_PS Data (M)
O_PS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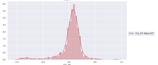
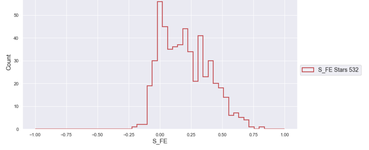
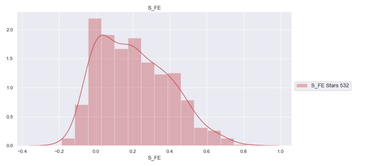
O_PS Data (M)

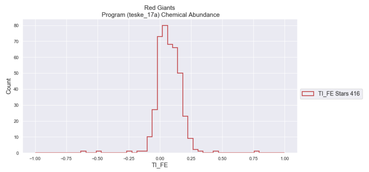

Part Inputs
Program Inputs, Tilt Chemical Absorbtion
Count
P_PS Data (ST)
P_PS

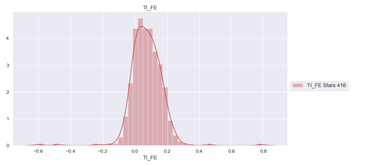
P_PS
P_PS Data (ST)

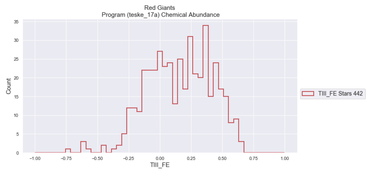
Part Inputs
Program Inputs, Tilt Chemical Absorbtion

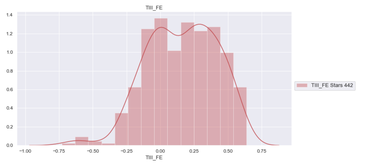


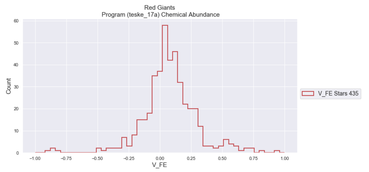


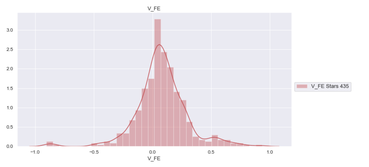


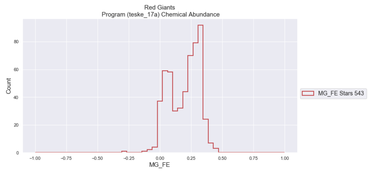


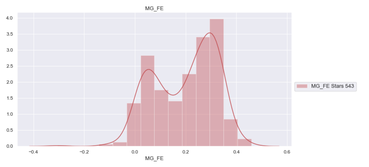


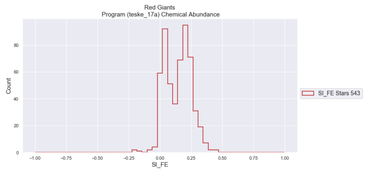


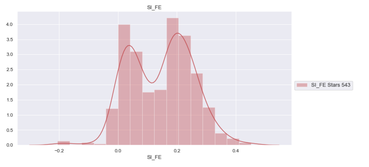










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Class B: 0
Class A: 11
Class F: 69
Class G: 185
Class K: 683
Class M: 221
Class L: 0
Class T: 0

Fd: 88
GKd: 401
GKg: 519
Md: 141
Mg: 66

All: Stars 1225

BA: Stars 10

Fd_a: Stars 35
Fd_b: Stars 19
Fd_c: Stars 21
Fd_d: Stars 13

GKd_a: Stars 212
GKd_b: Stars 70
GKd_c: Stars 77
GKd_d: Stars 42

GKg_a: Stars 262
GKg_b: Stars 116
GKg_c: Stars 98
GKg_d: Stars 43

Md_a: Stars 65
Md_b: Stars 34
Md_c: Stars 32
Md_d: Stars 10

Mg_a: Stars 27
Mg_b: Stars 14
Mg_c: Stars 17
Mg_d: Stars 8

Fields: ['259+57-O' '266+56-O' '350+18-O' '355+22-O' '356+12-O']

Program: teske_17a


teske_17a: 1317
We propose to collect APOGEE spectra of bright, cool dwarf stars monitored with
the K2 ecliptic survey, including stars found via the K2 light curves to host planet
candidates and M dwarf stars.
These APOGEE data will be used to measure stellar parameters and chemical abundances
for low-mass stars in the K2 fields. The scientific goals are:
(1) to determine rotation-based ages,
(2) to constrain the age-metallicity relation, and
(3) look for a correlation between exoplanet architecture and host-star composition.
In particular, M dwarf spectra are of high value in the development of an analysis method
for extracting reliable, detailed abundances of Teff < 4000 K stars.

Done!
```

In [2]: