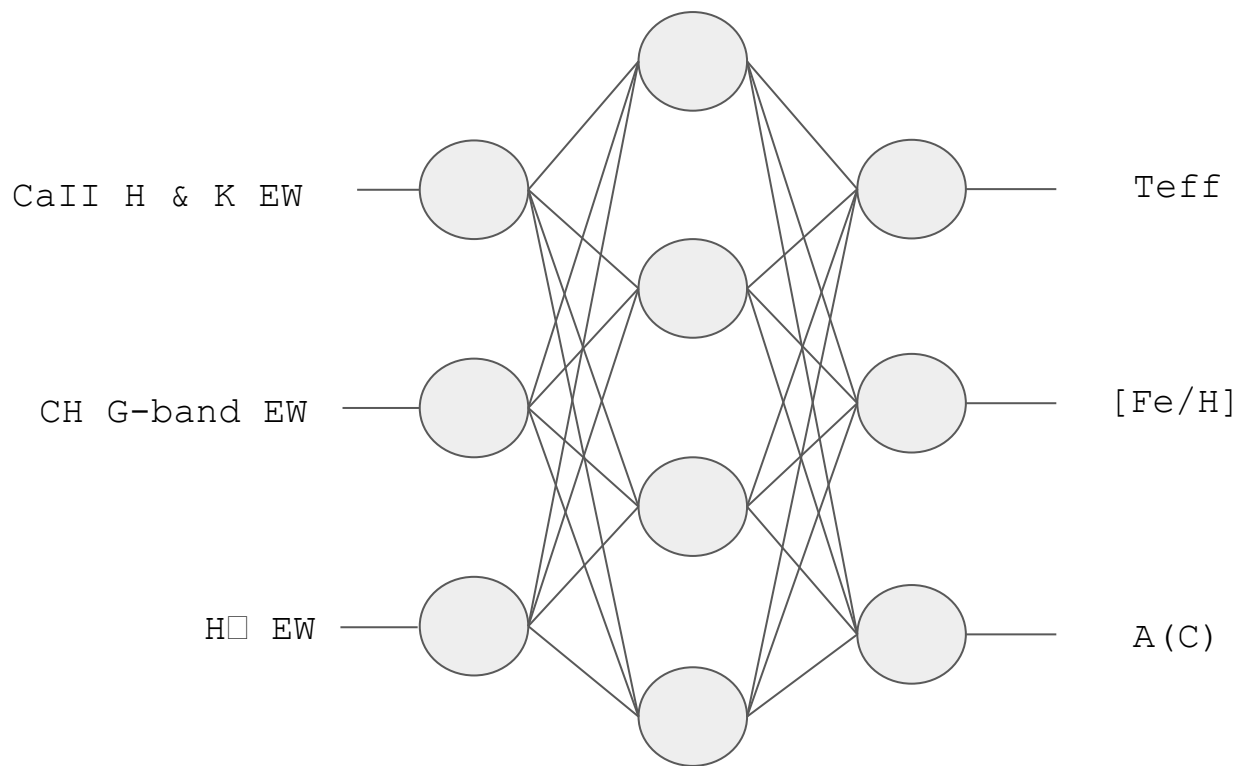


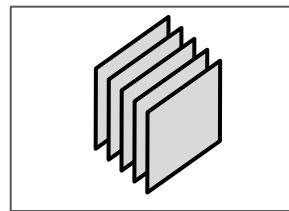
CASPER

Chemical Abundance and Stellar
Parameter Estimation Routine

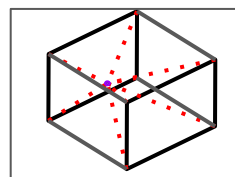
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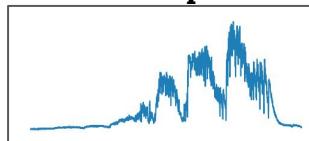
Synthetic Library
R2000_clean_normed_cut.hdf5



Interpolator
IDW



Observed Spectrum



Normalization
GISIC

Chi Minimization
 χ^2 MLE ?

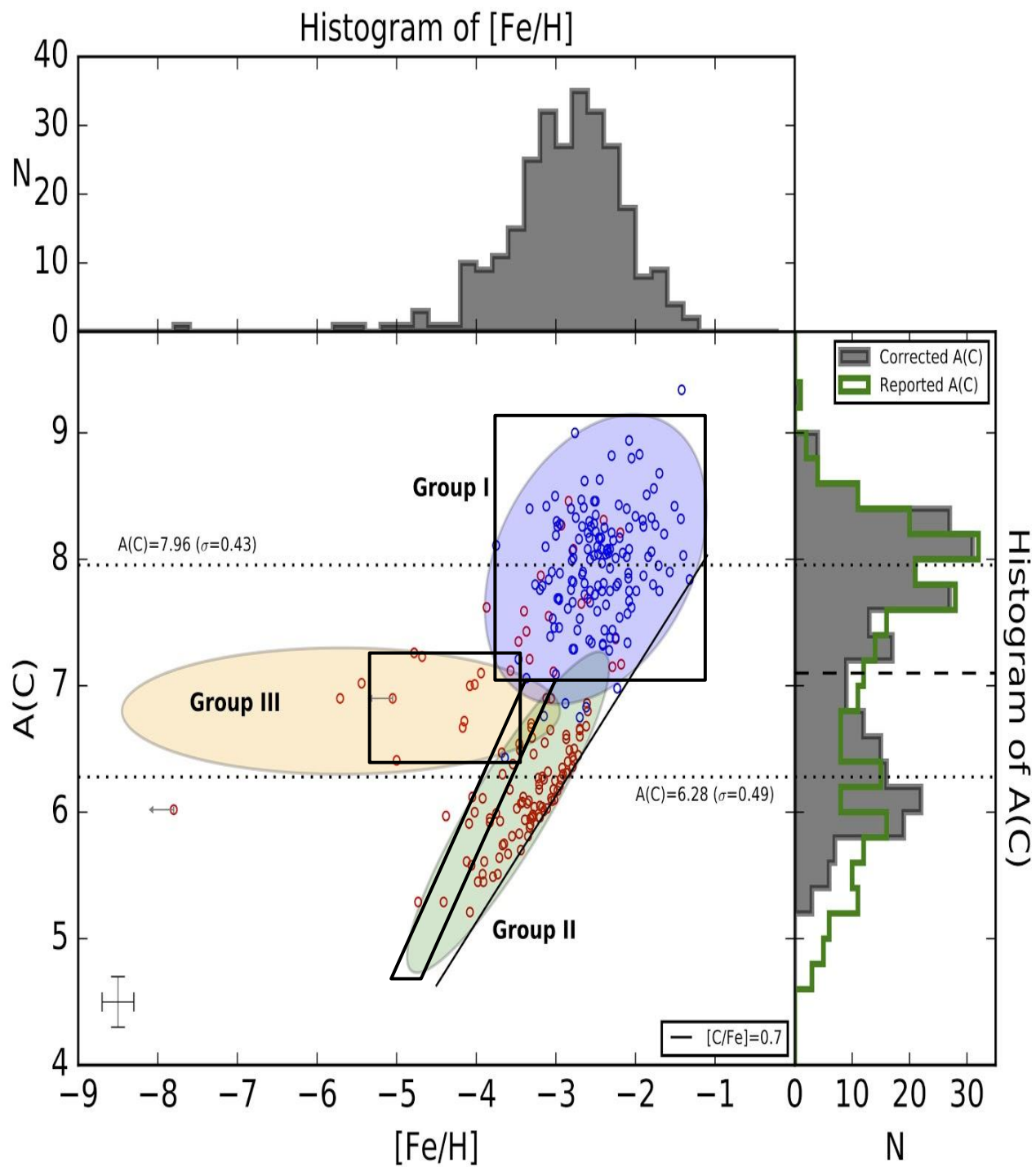
Archetypes
arch_base.hdf5

Chi Minimization

Carbon GQ

Final
Determination

2

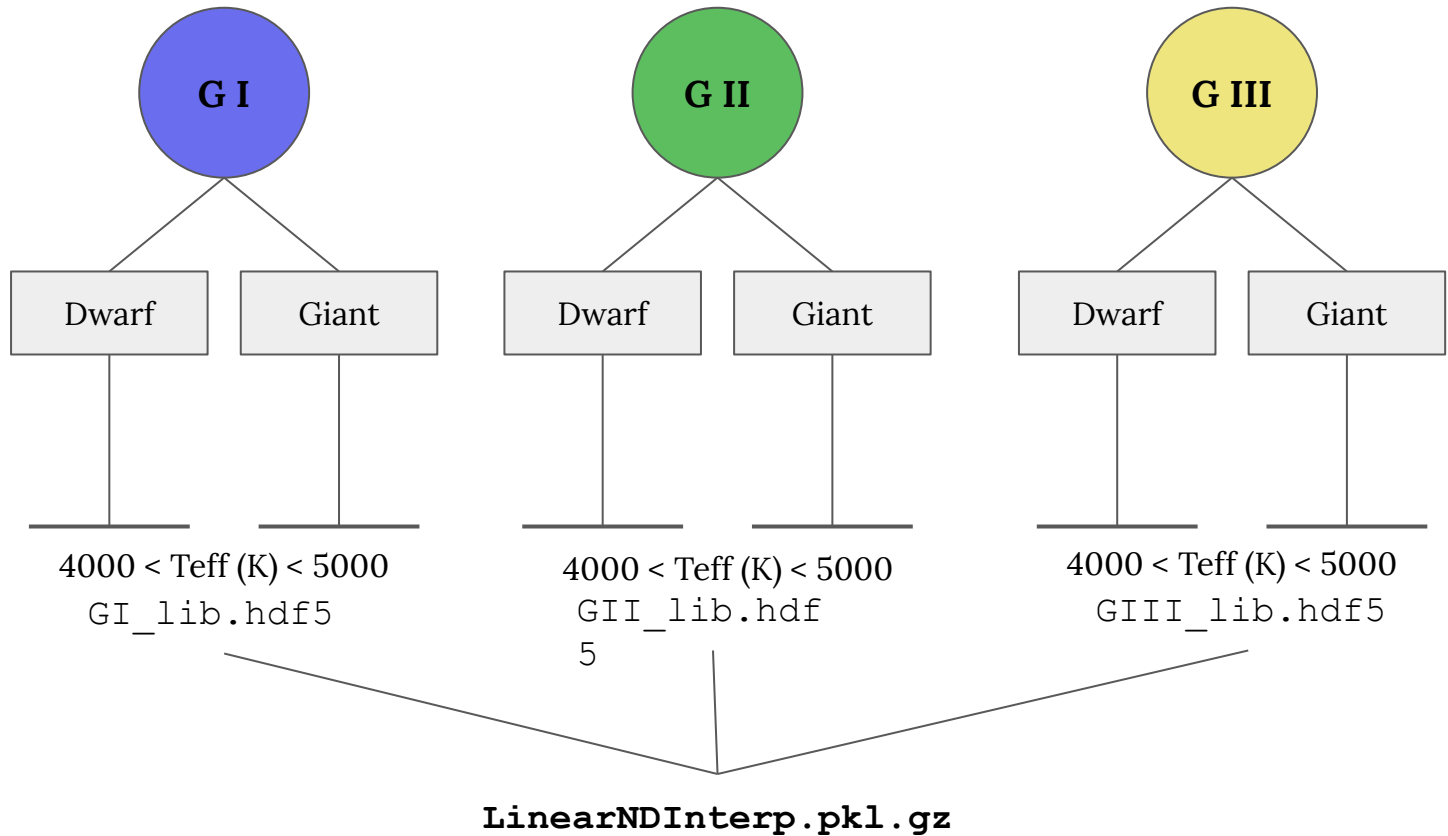


Normalization

Group Archetype Classification

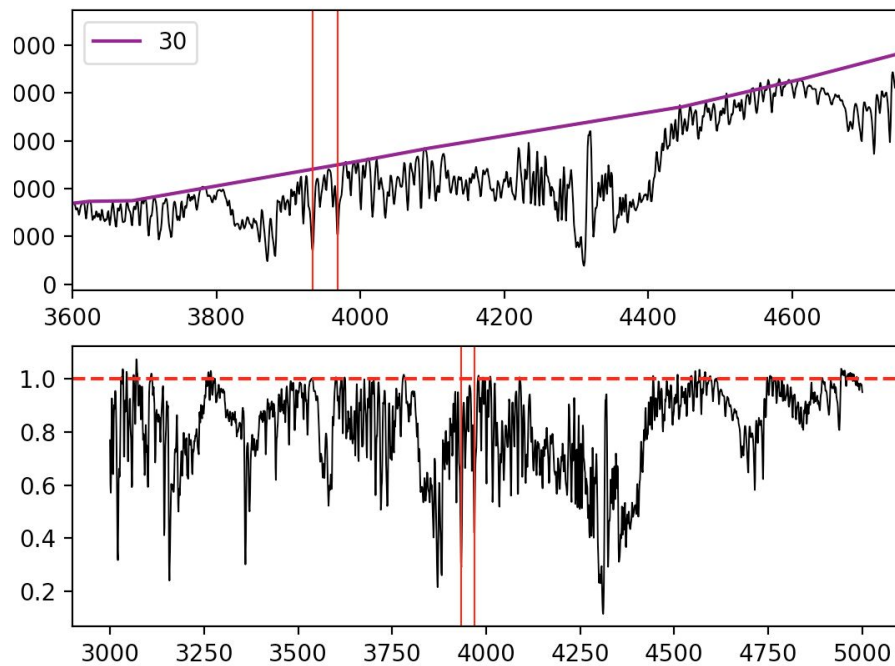
Refined Estimate Chi2

Synthetic Archetype Directory



Group	[Fe/H]	<i>A</i> (C)
Halo stars		
Group I	−2.5	7.9
Group II	−3.5	5.9
Group III	−4.3	7.0
Dwarf Galaxy stars		
Group I	−1.5	8.0
Group II	−3.0	6.3
Group III	−3.5	7.3

```
wave, norm, cont = GISIC.normalize(wavelength,  
flux, sigma = float(sigma_in), k=1, cahk=True)
```

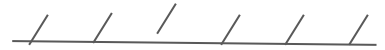




AC:

6.3

7.3



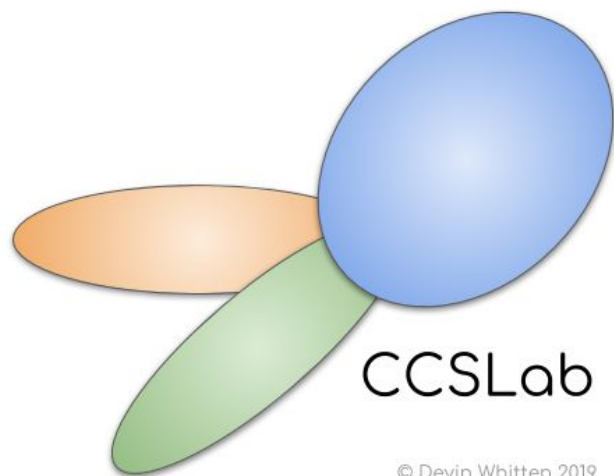
$4000 < T < 5000$



MCMC

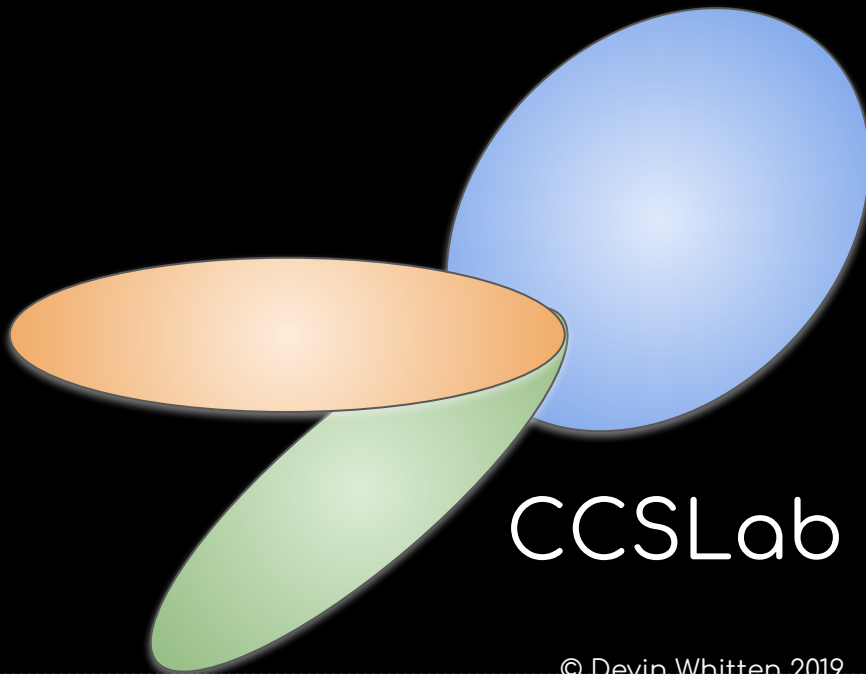
run_mcmc_FEH_AC()

cost_function_FEH_AC()



CCSLab

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