

cannon-test

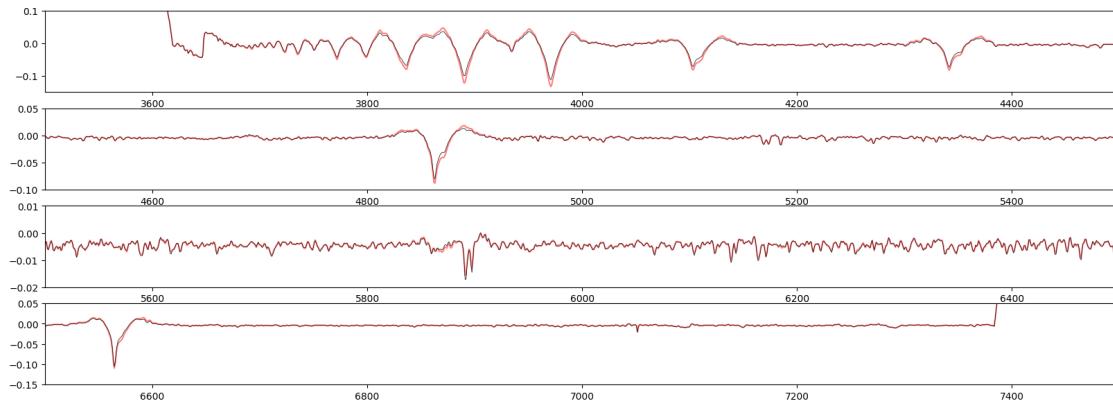
September 6, 2025

```
[1]: from analyse import AnalyseCannon
```

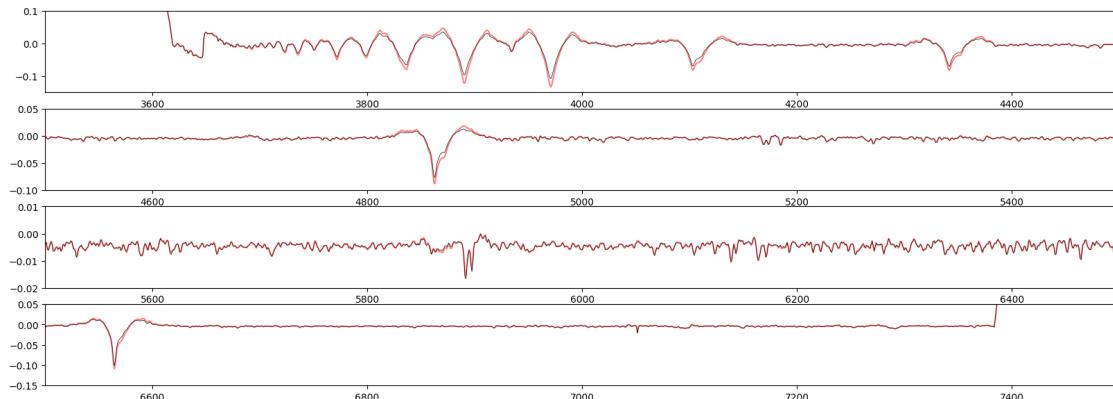
```
[2]: model_unrestricted = AnalyseCannon("sfh_2000_10_20250904_134728", 10, □  
    ↪restricted=False)  
model_restricted = AnalyseCannon("sfh_2000_10_20250904_134728", 10, □  
    ↪restricted=True)
```

```
[3]: model_unrestricted.plot_spectra()  
model_restricted.plot_spectra()
```

Spectra Comparison - Unrestricted

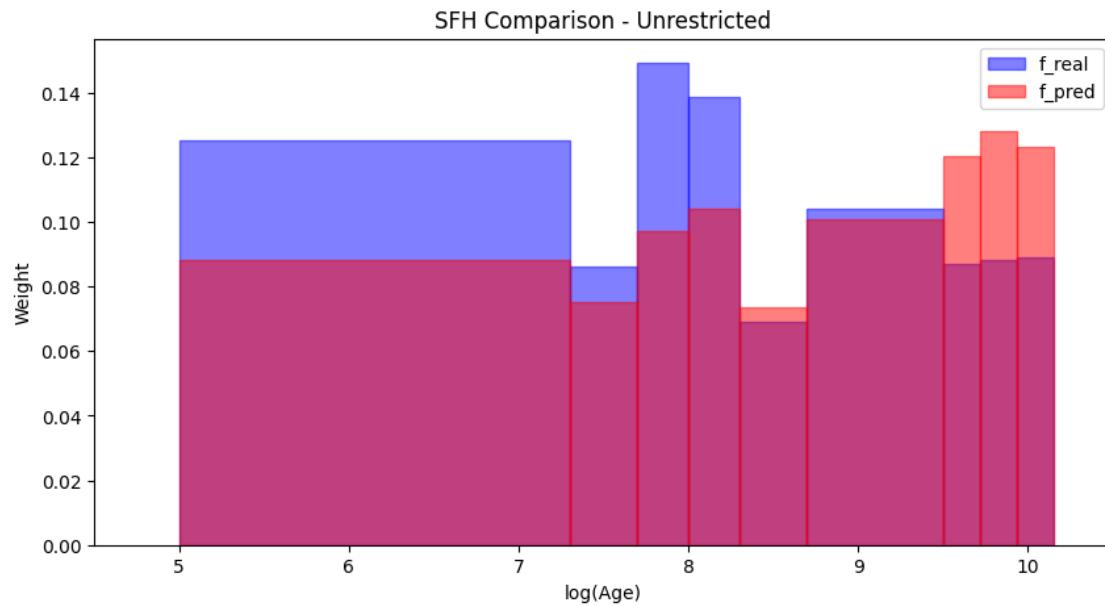


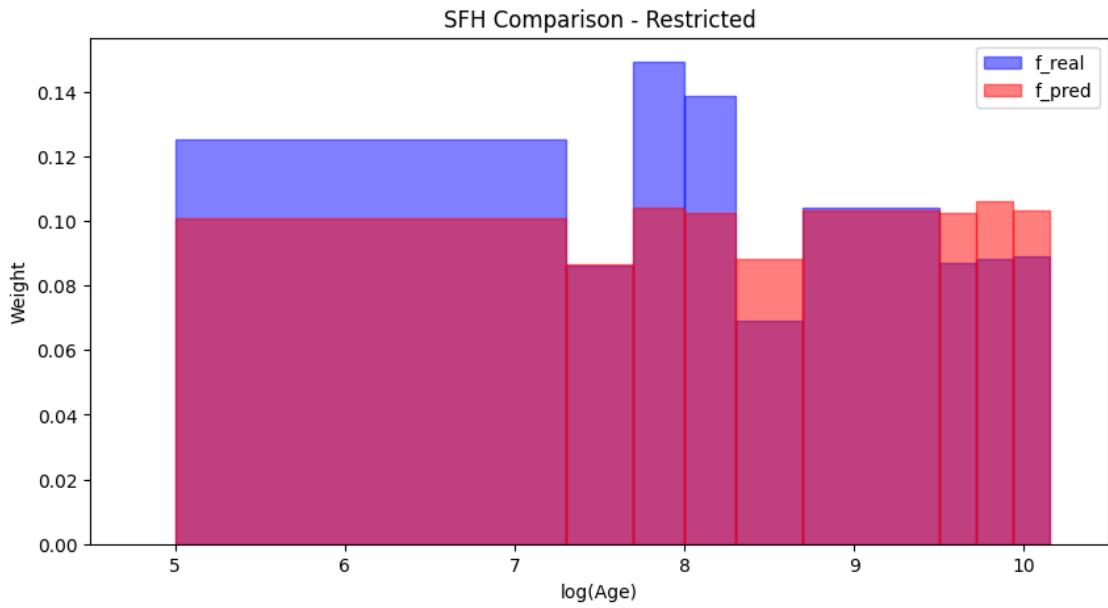
Spectra Comparison - Restricted



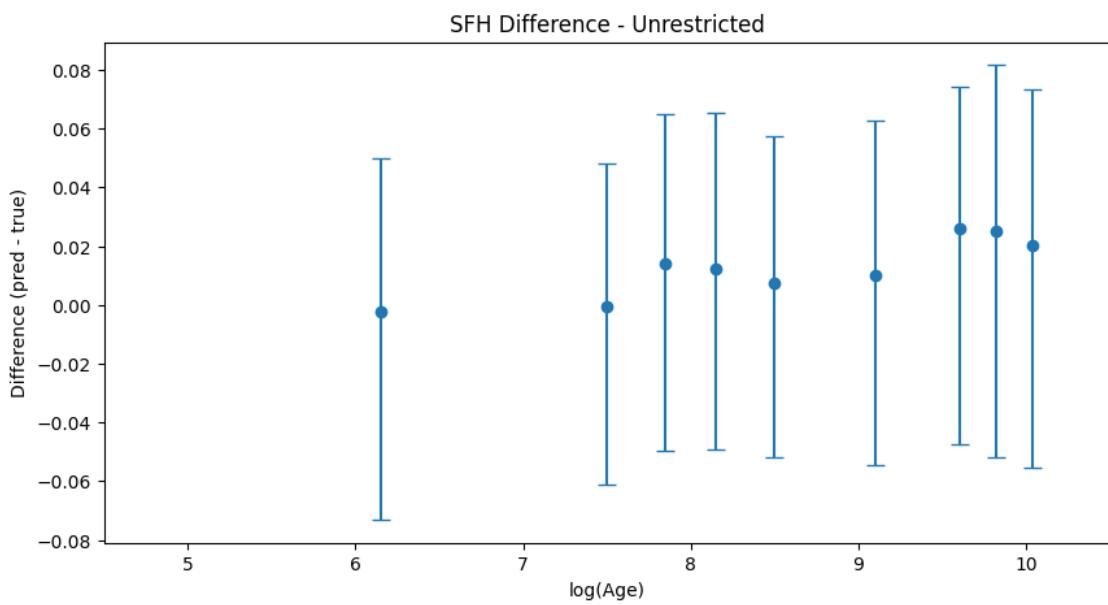
```
[4]: model_unrestricted.plot_sfh()  
model_restricted.plot_sfh()
```

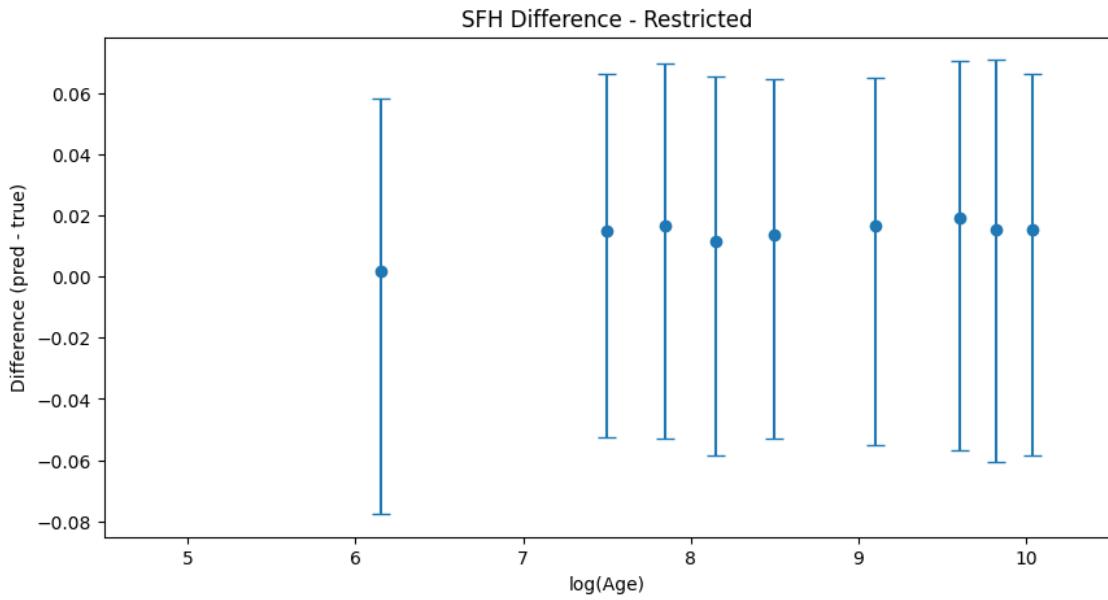
```
/home/vmehta/honours-project/analyse.py:83: RuntimeWarning: divide by zero  
encountered in log10  
    binning = np.log10(bin_arr)  
/home/vmehta/honours-project/analyse.py:85: RuntimeWarning: invalid value  
encountered in add  
    self.bin_centers = binning[:-1] + bin_widths/2
```





```
[5]: model_unrestricted.plot_difference()  
model_restricted.plot_difference()
```





```
[6]: model_unrestricted.rmse()
```

```
[6]: (array([0.0623517 , 0.07461178, 0.07180176, 0.07674968, 0.07559631,
       0.07274435, 0.07336465, 0.07628414, 0.08643221, 0.08890166]),  
 np.float64(0.07621212155675582))
```

```
[7]: model_restricted.rmse()
```

```
[7]: (array([0.07947195, 0.07819193, 0.0798283 , 0.08036707, 0.08413523,
       0.07946107, 0.07435173, 0.07796254, 0.08569213, 0.08666697]),  
 np.float64(0.08069363805173538))
```

```
[ ]:
```