Spotted Python

Week 8 Tutorial

- Fitting a Gaussian
- Spectroscopic and photometric redshift

Spectroscopic Redshift

- Recall that redshift can be determined using the following:

$$z = \frac{\lambda_{observed}}{\lambda_{rest}} - 1$$

- List of emission lines are available here: http://astronomy.nmsu.edu/drewski/tableofemissionlines.html#:~:text=The%20ultraviolet%20and%20optical%20spectra,nature%20of%20the%20ionizing%20source.

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Photometric Redshift

- Faster but less accurate than spectroscopic redshift
- Template fitting to a range of galaxy spectral energy distributions (SEDs)
  - Function of star formation history and the geometric arrangement of stars and gas content in galaxies
  - Energy versus wavelength
  - Fitting flux inputs of an object to a range of known spectra
  - Best fit is determined by a χ^2 minimisation process

$$\chi^2 = \min\left(\sum_i^N \frac{(O_i - E_i)^2}{E_i}\right)$$

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Running EAZY

- Easy and Accurate z_{phot} from Yale
- Installing eazy-py
  - **cd (directory you want to download into)**
  - **git clone https://github.com/gbrammer/eazy-py.git**
  - **cd eazy-py**
  - **pip install . -r requirements.txt**
- Installing dust attenuation
  - **pip install git+https://github.com/karllark/dust_attenuation.git**

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