

Convert to Flux:  
0\_toFlux.ipynb

## Multi-band Photometry

## Spectroscopy

1\_LC\_DustCorrection.ipynb →

### Correct for Dust Extinction

(MW and host galaxy dust corrected)

2\_LC\_modelRising.ipynb →

3\_LC\_modelExpDecay.ipynb →

### Early and late time extrapolation

4\_LCfit.ipynb

**Light curve fitting:** Multi-band photometry is interpolated using gaussian processes

5\_Mangle\_spectra.ipynb

**Mangling:** Spectra are flux calibrated by mangling to match the broad-band photometry

Smooth  
Spectra first:  
0.1\_Smooth\_spectra.ipynb

6\_TwoDim\_UVExtend  
\_Extrapolate.ipynb

### Near-UV extension:

Near-UV photometry is combined with spectrophotometry into a  $\{time, wavelength\}$  grid and the surface  $Flux(time, wavelength)$  is interpolated using two dimensional gaussian processes.

### Increase sampling of the spectral time-series:

where spectrophotometry is too sparse, additional spectra are extrapolated from the fitted surface  $Flux(time, wavelength)$

7\_Rimangle.ipynb

**Re-mangling:** Refined flux calibration of extended spectra using Near-UV, IR, optical photometry

### Correction to rest-frame

### Apply host extinction back

**SN template**  
(host extinction  
corrected)

**SN template**  
(original host extinction  
included)