iSEDfit

Version 0.1

Cookbook

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1. What is iSEDfit?

Table of contents, intro stuff.

2. License

3. Installation

Define the requisite environment variables:

```
setenv ISEDFIT_SSP_DIR ${IM_DATA_DIR}/isedfit_ssp
```

Download the prebuilt SSPs:

```
http://cass.ucsd.edu/~ioannis/isedfit/isedfit_ssp.tar.gz
```

Make the directories montegrids isedfit

Step-by-step instructions:

Intro: iSEDfit requires three different parameter files. A global parameter file that is tied to a particular dataset (e.g., it has filter information); a "sfhgrid" (star formation history grid) parameter file, which specifies the prior parameter choices on the star formation history, metallicity, attenuation, burst parameters, etc.; and a "supergrid" parameter file, which specifies the SPS models, IMF, and attenuation/reddening curve.

This data model was chosen because it allows for significant flexibility in exploring different combinations of priors on the results. In the first section I will describe the simplest possible setup to get the code up and running, and in subsequent sections I will give many other examples of how to run iSEDfit.

Getting Up and Running

1) First make the global parameter file. Choose the filter list, and be sure they have been incorporated into K-correct. Choose the minimum and maximum redshifts you will consider. Choose a unique prefix for the project.

Then run:

```
write_isedfit_paramfile, filterlist, prefix=prefix, minz=minz, maxz=maxz, $
```

```
nzz=nzz, zlog=zlog, h100=h100, omega0=omega0, omegal=omegal, igm=igm, $
isedpath=isedpath, clobber=clobber
```

This will write out a parameter file in some directory....

2) Next build the "sfhgrid" parameter file. This file specifies your choice of star formation history (SFH) priors. You can have as many combinations of priors as you want and they will each be assigned a unique identifier. The routine that will need to be called is

```
write_sfhgrid_paramfile,
```

This routine will need to be called once per SFHGRID (combination of priors). An existing parameter file can either be overwritten or appended to.

3) Next build the "supergrid" parameter file. This file relates each SFHGRID to a particular choice of SPS models, IMF, and attenuation curve. The strength of this data model is that you can easily explore the effect of different SPS models or attenuation curve on your results.

```
write_supergrid_paramfile,
```

Doing More Complication Things

1) Exploring more than one SFHGRID. Need to call `write_sfhgrid_paramfile` more than once. Example: bursts and no bursts.

2) Exploring two different SPS models and two attenuation curves while keeping the SFHGRID priors fixed. Call `write_supergrid_paramfile` again.

3) Changing your redshift range while keeping everything else constant. Example: exploring a low-redshift solution.