Comparison of the PEGASE.2 synthetic spectra with the SDSS spectra

Simulated photometry, based on the SDSS galaxy spectra and on PEGASE synthetic spectra was used in order to treat both sets of data homogeneously. The simulated photometry was produced by the appropriate module of the PEGASE code.

The synthetic spectra of PEGASE.2 differ in four parameters, which are the most significant amongst the seven input parameters of PEGASE.2. These are: the parameters $p_1$ and $p_2$ of the star formation model, the metallicity of the infalling gas, and the stellar winds.

The limits of the four parameters, we randomly chose the values of each parameter within the range shown in the figure. In this way we could now simulate the magnitude in the $g$-filter and create the $g*-r$ in $r$ color-color diagram. To obtain the observed spectra of galaxies that SDSS has observed we used the Data Release 4 (DR4). We downloaded 3d spectra for galaxies fulfilling the given criteria: the galaxies should not be near a CCD edge nor saturated and their errors in table 1 were kept constant in this first release of the library. We also plan to include starburst galaxies in future releases.

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