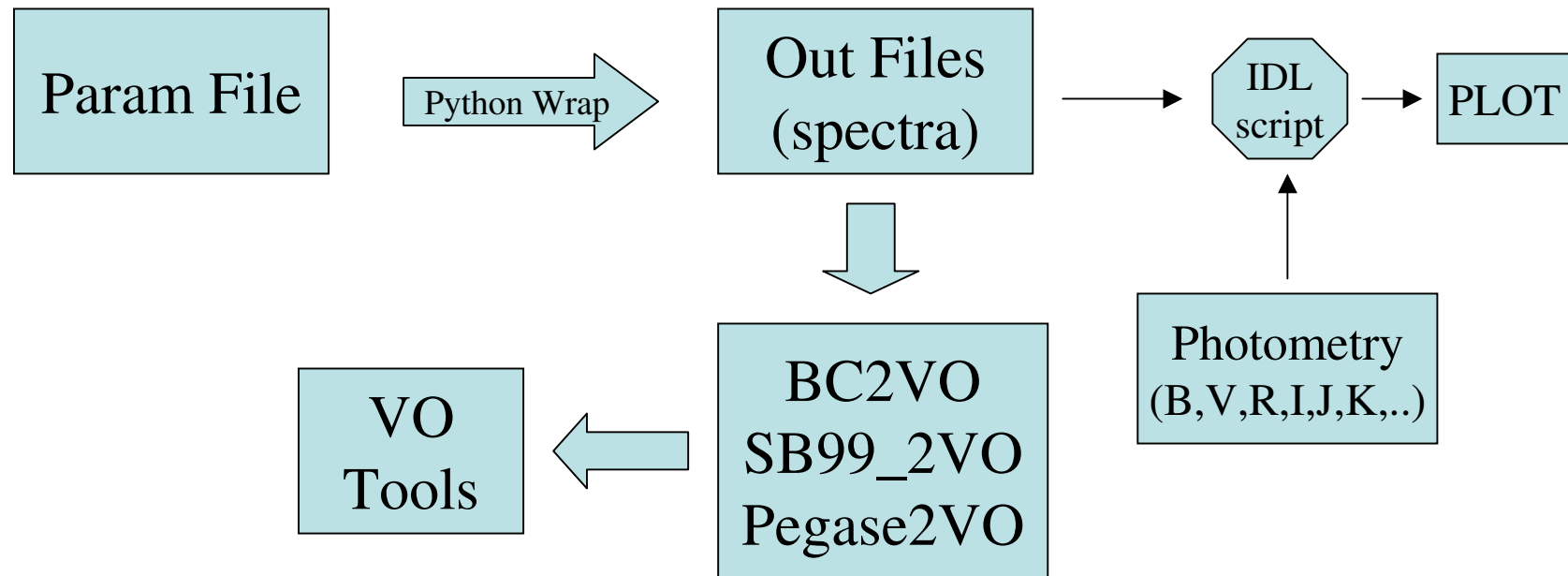


Comparing synthetic spectra with photometric data: the case of GALAXEV (Bruzual&Charlot 03)

(P.Rosati, V.Strazzullo)

For intro and details see:
<http://www.eso.org/~prosati/avo/GALAXEV.html>



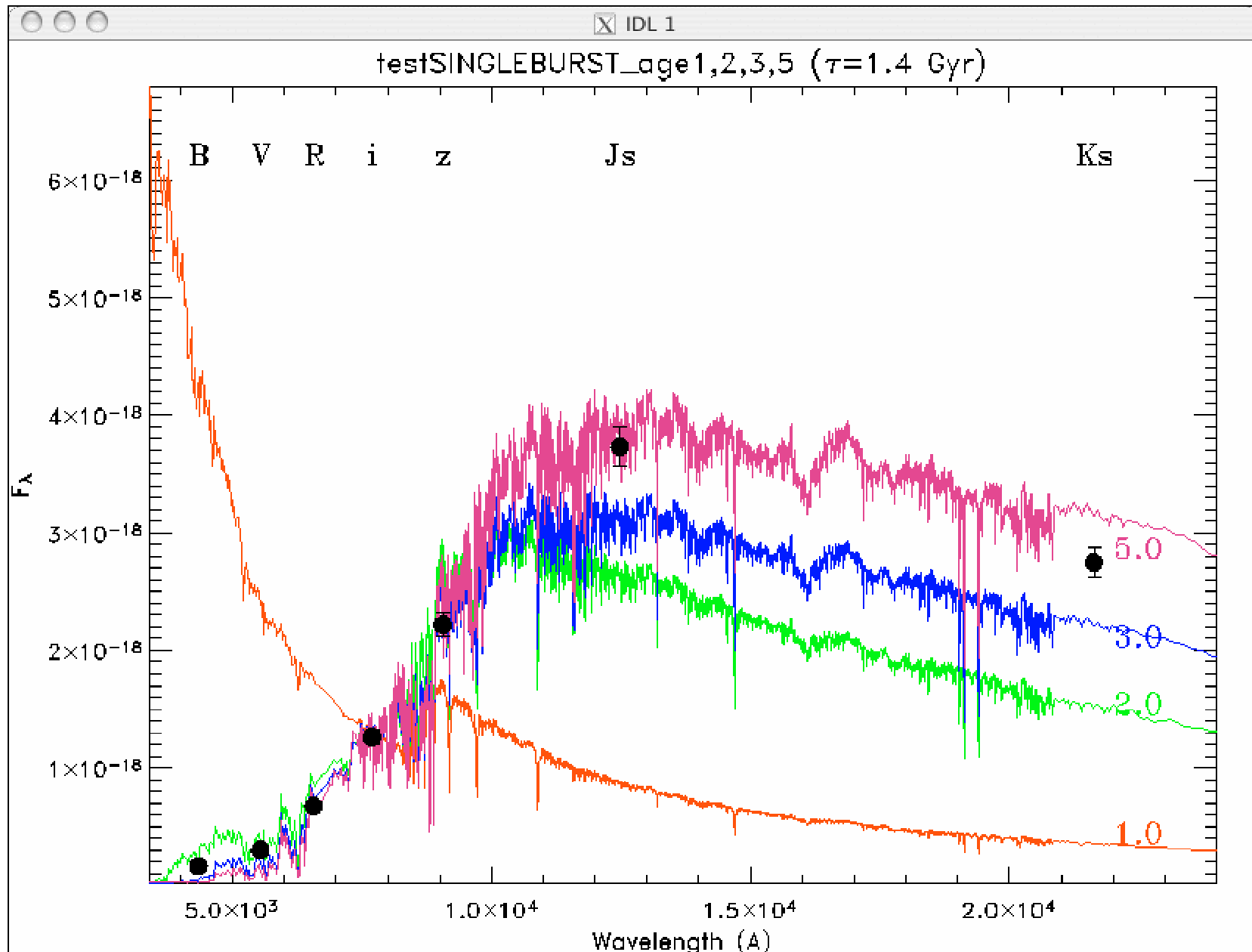
The input parameter file to feed the Python script

```
# Compute stellar evolution of a composite stellar population
ROOTDIR      /Users/piero/Desktop/bc03/  #Root BC03 directory
SFR          salpeter      #salpeter/chabrier
RESOLUTION   hr           #high = hr, low = lr
SPH          0.02
TRACKS       Padova1994   #Padova1994 / Padova2000
DUST         N           #Y/N.
TAU_V       1.0         #total effective attenuation optical depth
MU          0.3         #fraction of tau_V arising from the ambient ISM
SFR         singleburst [exponential/SSP/singleburst]
SFR         1.4         #SFR exponential:tau , SFR singleburst:DeltaT
GASRECYCLE  N           #Y/N
EPSILON     0.001      #recycled fraction of gas (from 0.001 to 1)
TCUTSFR     20         #Set SFR = 0 at time > TcutSFR (Gyr)
OUTPUTFILE  test       #basename of output files
#-----
#Extract a spectrum at a given age
EXTRACT_AGE  1,2,3,5   #output age(s) (Gyr), max=24 ages; N=do not extract
SPECRANGEMIN 1000     #minimum wavelength range (Angstrom)
SPECRANGEMAX 25000    #maximum wavelength range (Angstrom)
FNU_LAMBDA   lambda   #nu/lambda
FOSCALING    10        #Normalization flux at wavelength W0. N= no scaling
WOSCALING    4000     #W0
#-----
#Redshift evolution
H_0          70.       #Hubble constant
Omega        0.3       #Omega_M
Omega_Lambda 0.7       #Omega_Lambda
GALAXY_AGE_TODAY 10.   #Galaxy age at z=0
REDSHIFT_EVOL col     #col/mag.
FILTER1      12        #filter for magnitude evolution
FILTER2      3         #additional filter, if REDSHIFT_EVOL = col
```

Photometry (mags+errors)

GALAXEV output file

```
IDL> plotsed,'phot291.cat','testSINGLEBURST_age1,2,3,5'
```



Photometry (mags+errors)

```
>phot291.cat  
26.40 0.11 B  
25.19 0.03 V  
23.94 0.03 R  
22.92 0.01 i  
21.95 0.00 z  
20.69 0.02 Js  
19.83 0.02 Ks
```

GALAXEV output file

```
>testSINGLEBURST_age1,2,3,5  
# Output file name = testSSP_age1,2,3,5  
# Input file name = testSSP.ised  
# Column      2      3      4      5  
# Record      136    145    153    161  
# Age (yr)    1.015E+09 2.000E+09 3.000E+09 5.000E+09  
# Lambda(A)   Flux    Flux    Flux    Flux  
9.950000E+02 7.524E-02 1.979E-01 2.986E-01 3.138E-01  
1.005000E+03 8.304E-02 2.221E-01 3.395E-01 3.552E-01  
1.015000E+03 8.102E-02 2.209E-01 3.399E-01 3.555E-01  
1.025000E+03 5.307E-02 1.505E-01 2.356E-01 2.448E-01  
1.035000E+03 7.316E-02 1.983E-01 3.027E-01 3.163E-01  
1.045000E+03 8.901E-02 2.402E-01 3.710E-01 3.879E-01  
1.055000E+03 8.639E-02 2.306E-01 3.558E-01 3.724E-01  
1.065000E+03 7.588E-02 2.015E-01 3.088E-01 3.233E-01  
1.075000E+03 8.009E-02 2.121E-01 3.264E-01 3.419E-01  
1.085000E+03 6.749E-02 1.774E-01 2.714E-01 2.837E-01
```