GALAXY ISOCHRONE SYNTHESIS SPECTRAL EVOLUTION LIBRARY

(GISSEL)

***** updated "BC95" version: 12/95 *****

Gustavo Bruzual A.
and
Stephane Charlot

This library contains several files computed with the new Bruzual and Charlot (1995) Isochrone Synthesis Spectral Evolutionary Code (Bruzual and Charlot, 1995, in preparation, hereafter **BC95**; see also Bruzual and Charlot 1993 *ApJ*, **405**, 538, hereafter **BC93**). This new version is described in some detail by Charlot, Worthey,and Bressan 1996, *ApJ*, **457**, in press). In what follows this new set of models will be referred to as the Galaxy Isochrone Synthesis Spectral Evolution Library (GISSEL, Bruzual and Charlot 1993, 1995). This documentation file was last updated on 12/29/1995.

CONTENT:

The following files are included in GISSEL (it is suggested that you copy these files to a subdirectory **~/bc95**. You need about 30.5 Mbytes to copy all the files onto your disk):

Simple Stellar Populations or Instantaneous Bursts (SSP):

bc95_ssp_sp_1.ised	bc95_ssp_sc_1.ised	bc95_ssp_ms_1.ised
bc95_ssp_sp_2.ised	bc95_ssp_sc_2.ised	bc95_ssp_ms_2.ised
bc95_ssp_sp_3.ised	bc95_ssp_sc_3.ised	bc95_ssp_ms_3.ised
bc95_ssp_sp_4.ised	bc95_ssp_sc_4.ised	bc95_ssp_ms_4.ised
bc95_ssp_sp_5.ised	bc95_ssp_sc_5.ised	bc95_ssp_ms_5.ised
bc95_ssp_sp_6.ised	bc95_ssp_sc_6.ised	bc95_ssp_ms_6.ised
bc95_ssp_sp_7.ised	bc95_ssp_sc_7.ised	bc95_ssp_ms_7.ised

Composite Stellar Populations (CSP):

bc95_1gyr_sp_1.ised
bc95_tau1_sp_1.ised
bc95_cons_sp_1.ised

Auxiliary files:

README.ps (this file)	csp.dec	csp.f
filterfrm.res	SSP_0.dec	csp.sh
A0V_KUR_BB.SED	SSP_4.dec	filters.log
FILTERBIN.RES*	SSP_12.dec	filter.dec
RF_COLORS.cousins	SSP_13.dec	recycle.dec
RF_COLORS.johnson	cosmo.dec	

HOW TO COPY THE FILES:

Please copy all the GISSEL files via anonymous ftp from:

ftp gemini.tuc.noao.edu (140.252.3.54)
username: **anonymous**
password: **your e-mail address**

Change to directory /pub/charlot/bc95 after you log into the account.
ftp> **cd /pub/charlot/bc95**

and proceed as follows (you need about 31 Mbytes of free disk space):
ftp> **get README.ps** (this file)
ftp> **type binary**
ftp> **get bc95.tar**
ftp> **quit**

The files are in the tar file (type binary) = **bc95.tar.** To extract these files, you will need temporarily another 31 Mbytes of disk space (the tar file can be deleted afterwards). Just do:

host% **mkdir bc95**
host% **cd bc95**
host% **mv ../bc95.tar .**
host% **tar -xvf bc95.tar**

You should have in your disk the files listed at the end of this document.

DESCRIPTION OF FILE NAMES:

Each model has been assigned a file name coded according to the parameters used to build the model as follows:

Version:

bc95 = GISSEL 1995 version

Star Formation Rate (SFR):

ssp = simple stellar population (= instantaneous burst)
1gyr = burst of star formation lasting from t=0 to t=1 Gyr
cons = constant star formation rate = 1.000E-10 Mo/yr
taun = exponentially decreasing SFR (BC93, eq. 2), where n = e-folding time in Gyr. ($n = 1 \Rightarrow \tau = 1$ Gyr). No gas recycling has been assumed.

Initial Mass Function (IMF):

sp = Salpeter (1955)
sc = Scalo (1986)
ms = Miller & Scalo (1979)

Lower and Upper mass limits of IMF:

1	=	from	0.1	to	125 Mo
2	=	from	0.1	to	65 Mo
3	=	from	0.1	to	30 Mo
4	=	from	0.1	to	2.5 Mo
5	=	from	2.5	to	125 Mo
6	=	from	0.1	to	20 Mo
7	=	from	0.1	to	10 Mo

In all cases the **total mass** of the model galaxy is **1 Mo,** except for the case of constant SFR, in which the total mass increases with time. Each ***.ised** file contains 221 SED's, corresponding to 221 time steps from 0 to 20 Gyr. Each SED has 1206 wavelength points in the range from 5 A to 100 μm. The fluxes are given in units of Solar_Luminosity/Angstrom, i.e. by multiplying the listed fluxes by 3.826E33 erg/s, the fluxes are transformed to erg/s/A. Since the models are normalized to 1 Mo total mass, the fluxes should be scaled according to the desired galaxy mass. For each ***.ised** binary file, there are 5 files named ***.1color**,***.2color**, ***.3color**, ***.4color**, and ***.5color**, which list several rest frame properties of the model as a function of time. Each ***.?color** file has a header with detailed information about the parameters used to build the model.

INITIAL MASS FUNCTION:

For the convenience of the general user, the parametric expression used for the different IMF's are given below. The constant *c* refers to the normalization constant which appears in *f(m)=c/m**(1+x)*. The values of *c* listed below for each segment insure the normalization (total mass = 1 Mo) and continuity of the IMF. These values are given for the case Mu = 125 Mo. The values of *c* corresponding to other values of Mu are listed in the header of the respective files.

IMF	Segments	x	from m	to m	mass fraction	number of stars	mass per star	c
Salpeter (1955)	1	1.35	0.10	125	1.0000	2.8253		1.7038E-01
total					1.0000	2.8253	0.3539	
Scalo (1986)	6	-2.60	0.10	0.18	0.0512	0.3506		1.0053E+02
		0.01	0.18	0.42	0.2780	0.9822		1.1443E+00
		1.75	0.42	0.62	0.1637	0.3260		2.5293E-01
		1.08	0.62	1.18	0.2271	0.2708		3.4842E-01
		2.50	1.18	3.50	0.1844	0.1089		4.4073E-01
		1.63	3.50	125.	0.0956	0.0118		1.4819E-01
total					1.0000	2.0502	0.4878	
Miller & Scalo (1979)	4	0.25	0.10	1.00	0.3112	0.8837		2.8387E-01
		1.00	1.00	2.00	0.1968	0.1419		2.8387E-01
		1.30	2.00	10.0	0.3624	0.0957		3.4948E-01
		2.30	10.0	125.	0.1297	0.0076		3.4948E+00
total					1.0000	1.1289	0.8858	

MODEL REST-FRAME COLORS, MAGNITUDES AND OTHER PROPERTIES:

The ***.?color** files list the quantities indicated below as a function of age measured in the rest frame of the model galaxy. The number given in parentheses represents the number of the filter in the sequential list given in file **filters.log**. The file **filterfrm.res** contains the filters response functions used by the authors. The file **FILTERBIN.RES** contains the same filter data in binary form. The filters used to compute the colors are also listed in the files **RF_COLORS.cousins** and **RF_COLORS.johnson**, which can be modified by the user. The zero points of these colors have been computed by requiring that the respective color of the Kurucz (1979) model atmosphere for α-Lyrae (extended to the IR) be = 0. The Kurucz model is listed in file **A0V_KUR_BB.SED**. These files are provided so that the interested user can compare his/her own derivation of the model colors with the results of BC95. The composite stellar populations are computed by a straightforward application of the convolution integral given in equation (1) of BC93. When performing this integral, caution must be taken to insure that the model spectral energy distributions are interpolated at all ages which are relevant for the star formation rate in use (e.g. burst of star formation lasting for 1.5 Gyr, step which is not included in our grid).

File: *.1color:

log age (yr)	
Mbol/Mo	= bolometric magnitude per 1 Mo galaxy
Umag/Mo	= U(12) magnitude per 1 Mo galaxy
Bmag/Mo	= B(14) magnitude per 1 Mo galaxy
Vmag/Mo	= V(15) magnitude per 1 Mo galaxy
Kmag/Mo	= K(57) magnitude per 1 Mo galaxy
14-V	= 1400(22) - V(15) color
17-V	= 1700(23) - V(15) color
22-V	= 2200(24) - V(15) color
27-V	= 2700(25) - V(15) color
B(912)	= Amplitude of Lyman discontinuity
B(4000)	= Amplitude of 4000 A break

File: *.2color:

log age (yr)				
U-J	=	U+(1)	-	J+(2) color
J-F	=	J+(2)	-	F+(3) color
F-N	=	F+(3)	-	N+(4) color
U-B	=	U(12)	-	B(13) color
B-V	=	B(14)	-	B(15) color
V-R	=	V(15)	-	R(84) color
V-I	=	V(15)	-	I(85) color
V-J	=	V(15)	-	J(55) color
V-K	=	V(15)	-	K(57) color
R-I	=	R(84)	-	I(85) color
J-H	=	J(55)	-	H(56) color
H-K	=	H(56)	-	K(57) color

File: *.3color:

log age (yr)	
Mbol/Mo	= bolometric magnitude per 1 Mo galaxy
Vmag/Mo	= V(15) magnitude per 1 Mo galaxy
M/Lb	= Mass to B (14) light ratio
M/Lv	= Mass to V (15) light ratio
M*	= Total mass in stars at this age
Mgas	= Mass left as gas at this age
SFR/yr	= star formation rate (Mo/year)
NLya/Mo	= log of # Ly continuum photons / 1 Mo galaxy
EW(Ly-α)	= Ly-α equivalent width
Mg2	= Magnesium 2 index

File: *.4color:

log age (yr)	
Mbol/Mo	= bolometric magnitude per 1 Mo galaxy
b(t)*'s/yr	= evolutionary flux (Renzini & Buzzoni 1986)
B(t)/yr/Lo	= specific evolutionary flux (Renzini & Buzzoni 1986)
SNR/yr/Lo	= supernova rate (per year and solar Luminosity)
PNBR/yr/Lo	= planetary nebula birth rate (/yr/Lo)
N(BH)	= number of black holes (per 1 Mo galaxy)
N(NS)	= number of neutron stars (per 1 Mo galaxy)
N(WD)	= number of white dwarfs (per 1 Mo galaxy)
M(Remnants)	= total mass in remnants (per 1 Mo galaxy)

File: *.5color:

log age (yr)	
<H>	= (Hγ + Hδ + Hβ)/3
Hgam	= absorption equivalent width of Hγ
Hdel	= absorption equivalent width of Hδ
Hbet	= absorption equivalent width of Hβ
B-K	= B(14) - K(57) color
B-K'	= B(14) - K'(86) color

READING THE BINARY FILES *.ised:

The binary files ***.ised** contain the evolving SED's for a given model. The program **galaxevpl.f** is provided so that the user can extract SED's at selected time steps. The program **galaxevpl** should compile with no problem under SunOS f77 using the following options:

host% **f77 -O -Nl150 -e -sun4 -o galaxevpl galaxevpl.f**

producing the following output:

```
galaxevpl.f:
   MAIN galaxevpl:
        nread:
        entry   qread:
        chaext:
        largo:
```

COMPOSITE STELLAR POPULATIONS:

The program **csp.f** allows the user to build his/her own CSP models from the SSP models included in GISSEL. The program **csp** should compile using the following options:

host% **f77 -O -Nl150 -e -sun4 -o csp csp.f**

producing the following output:

```
  csp.f:
    MAIN csp_galaxev:
        filter:                    ...                    ...
        color:                     expand_time_steps:     file_header:
        zerop:                     name_sed:              sfr_exp_rec:
        filter0:                   convolve_sed:          clyman:
        ifilter:                   convol:                ynag2:
        BLOCK DATA filter_0:       convol2:               b912:
        trapez:                    sfr:                   b4000:
        copyright:                 rf_color:              ew_balmer:
        largo:                     linear:                iplace:
        sfr_0_b:                   trapz1:                locate:
        rgas:                      usrsfr:                dattim:
        get_epsilon:               chaext:                t:
        ....                       ....                   zx:
```

The program **csp** should be run by "sourcing" the script file **csp.sh** as follows:

source csp.sh

This insures that the correct environment variables are set in the program. Note that the environment variable **RF_COLORS_ARRAYS** is usually set to **RF_COLORS.cousins** (see above), but another option for the default filters used by **csp** may be chosen by substituting **RF_COLORS.johnson** (or the user's choice of filters) for **RF_COLORS.cousins** in **csp.sh**. The fortran statements needed to read the binary files ***.ised** can be found in the file **csp.f** (statements 35:68).

REPORTING SUCCESS OR PROBLEMS:

After you succeed copying the files, please send an e-mail note to both **bruzual@cida.ve** and **charlot@iap.fr.** We can also also be reached at the following addresses:

G. Bruzual:

Postal Address Venezuela:
Gustavo Bruzual A.
CIDA
Apartado Postal 264
Mérida 5101-A
Venezuela

Street Address Venezuela:
Gustavo Bruzual A.
Urb. Alto Chama,
Avenida 8, Quinta CIDA,
La Parroquia, Merida 5101
Venezuela
Tel: +58-74-712780/713883
Fax: +58-74-712459

Postal address in the USA:
Gustavo Bruzual A.
CIDA (MRD-1726)
PO BOX 02-8537
Miami, FL 33102-8537
U.S.A.

S. Charlot

Permanent address in France:
Stephane Charlot
Institut d'Astrophysique
98 bis boulevard Arago
75014 Paris, France
Tel: +33 1 44 32 81 46
+ 33 1 44 32 80 00
Fax: +33 1 44 32 80 01

DIRECTORY OF FILES:

After extracting the files from the tar file **bc95.tar** you should have in your directory the following files (listed using the unix command **ls -alF**):

```
total 29820
drwxr-xr-x 2 username      5632 Dec 19 18:26 ./
drwxrwxrwx 7 username       512 Dec 19 18:26 ../
-rw-r--r-- 1 username     72742 Nov 17 09:22 A0V_KUR_BB.SED
-rwxr-xr-x 1 username    200412 Nov 18 10:09 FILTERBIN.RES
-rw-r--r-- 1 username     18728 Dec 19 18:26 README
-rw-r--r-- 1 username      1268 Nov 17 09:21 RF_COLORS.cousins
-rw-r--r-- 1 username      1268 Nov 17 09:21 RF_COLORS.johnson
-rw-r--r-- 1 username       128 Nov 17 09:21 SSP_0.dec
-rw-r--r-- 1 username        90 Nov 17 09:21 SSP_12.dec
-rw-r--r-- 1 username       204 Nov 17 09:21 SSP_13.dec
-rw-r--r-- 1 username       156 Nov 17 09:21 SSP_4.dec
-rw-r--r-- 1 username     30171 Dec 19 14:15 bc95_1gyr_sp_1.1color
-rw-r--r-- 1 username     32379 Dec 19 14:15 bc95_1gyr_sp_1.2color
-rw-r--r-- 1 username     32380 Dec 19 14:15 bc95_1gyr_sp_1.3color
-rw-r--r-- 1 username     32823 Dec 19 14:15 bc95_1gyr_sp_1.4color
-rw-r--r-- 1 username     16468 Dec 19 14:15 bc95_1gyr_sp_1.5color
-rw-r--r-- 1 username   1083752 Dec 19 14:15 bc95_1gyr_sp_1.ised
-rw-r--r-- 1 username     30171 Dec 19 14:17 bc95_cons_sp_1.1color
-rw-r--r-- 1 username     32379 Dec 19 14:17 bc95_cons_sp_1.2color
-rw-r--r-- 1 username     32380 Dec 19 14:17 bc95_cons_sp_1.3color
-rw-r--r-- 1 username     32823 Dec 19 14:17 bc95_cons_sp_1.4color
-rw-r--r-- 1 username     16468 Dec 19 14:17 bc95_cons_sp_1.5color
-rw-r--r-- 1 username   1083752 Dec 19 14:17 bc95_cons_sp_1.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:53 bc95_ssp_ms_1.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:53 bc95_ssp_ms_1.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:53 bc95_ssp_ms_1.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:53 bc95_ssp_ms_1.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:53 bc95_ssp_ms_1.5color
-rwxr-xr-x 1 username   1083828 Nov 15 19:53 bc95_ssp_ms_1.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:53 bc95_ssp_ms_2.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:53 bc95_ssp_ms_2.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:53 bc95_ssp_ms_2.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:53 bc95_ssp_ms_2.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:53 bc95_ssp_ms_2.5color
-rwxr-xr-x 1 username   1083828 Nov 15 19:53 bc95_ssp_ms_2.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:53 bc95_ssp_ms_3.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:53 bc95_ssp_ms_3.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:53 bc95_ssp_ms_3.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:53 bc95_ssp_ms_3.4color
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-rwxr-xr-x 1 username     16468 Nov 15 19:53 bc95_ssp_ms_3.5color
-rwxr-xr-x 1 username   1083828 Nov 15 19:53 bc95_ssp_ms_3.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:53 bc95_ssp_ms_4.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:53 bc95_ssp_ms_4.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:53 bc95_ssp_ms_4.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:53 bc95_ssp_ms_4.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:53 bc95_ssp_ms_4.5color
-rwxr-xr-x 1 username   1083804 Nov 15 19:53 bc95_ssp_ms_4.ised
-rwxr-xr-x 1 username     28356 Nov 15 19:53 bc95_ssp_ms_5.1color
-rwxr-xr-x 1 username     30414 Nov 15 19:53 bc95_ssp_ms_5.2color
-rwxr-xr-x 1 username     30415 Nov 15 19:53 bc95_ssp_ms_5.3color
-rwxr-xr-x 1 username     30828 Nov 15 19:53 bc95_ssp_ms_5.4color
-rwxr-xr-x 1 username     15583 Nov 15 19:53 bc95_ssp_ms_5.5color
-rwxr-xr-x 1 username   1083780 Nov 15 19:53 bc95_ssp_ms_5.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:53 bc95_ssp_ms_6.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:53 bc95_ssp_ms_6.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:53 bc95_ssp_ms_6.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:53 bc95_ssp_ms_6.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:53 bc95_ssp_ms_6.5color
-rwxr-xr-x 1 username   1083828 Nov 15 19:53 bc95_ssp_ms_6.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:53 bc95_ssp_ms_7.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:53 bc95_ssp_ms_7.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:53 bc95_ssp_ms_7.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:53 bc95_ssp_ms_7.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:53 bc95_ssp_ms_7.5color
-rwxr-xr-x 1 username   1083828 Nov 15 19:53 bc95_ssp_ms_7.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:53 bc95_ssp_sc_1.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:53 bc95_ssp_sc_1.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:53 bc95_ssp_sc_1.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:53 bc95_ssp_sc_1.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:53 bc95_ssp_sc_1.5color
-rwxr-xr-x 1 username   1083876 Nov 15 19:53 bc95_ssp_sc_1.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:53 bc95_ssp_sc_2.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:53 bc95_ssp_sc_2.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:53 bc95_ssp_sc_2.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:53 bc95_ssp_sc_2.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:53 bc95_ssp_sc_2.5color
-rwxr-xr-x 1 username   1083876 Nov 15 19:53 bc95_ssp_sc_2.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:53 bc95_ssp_sc_3.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:53 bc95_ssp_sc_3.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:53 bc95_ssp_sc_3.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:53 bc95_ssp_sc_3.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:53 bc95_ssp_sc_3.5color
-rwxr-xr-x 1 username   1083876 Nov 15 19:53 bc95_ssp_sc_3.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:53 bc95_ssp_sc_4.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:53 bc95_ssp_sc_4.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:53 bc95_ssp_sc_4.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:53 bc95_ssp_sc_4.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:53 bc95_ssp_sc_4.5color
-rwxr-xr-x 1 username   1083852 Nov 15 19:53 bc95_ssp_sc_4.ised
-rwxr-xr-x 1 username     28356 Nov 15 19:53 bc95_ssp_sc_5.1color
-rwxr-xr-x 1 username     30414 Nov 15 19:53 bc95_ssp_sc_5.2color
-rwxr-xr-x 1 username     30415 Nov 15 19:53 bc95_ssp_sc_5.3color
-rwxr-xr-x 1 username     30828 Nov 15 19:53 bc95_ssp_sc_5.4color
-rwxr-xr-x 1 username     15583 Nov 15 19:53 bc95_ssp_sc_5.5color
-rwxr-xr-x 1 username   1083780 Nov 15 19:54 bc95_ssp_sc_5.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:54 bc95_ssp_sc_6.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:54 bc95_ssp_sc_6.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:54 bc95_ssp_sc_6.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:54 bc95_ssp_sc_6.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:54 bc95_ssp_sc_6.5color
-rwxr-xr-x 1 username   1083876 Nov 15 19:54 bc95_ssp_sc_6.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:54 bc95_ssp_sc_7.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:54 bc95_ssp_sc_7.2color
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-rwxr-xr-x 1 username     32380 Nov 15 19:54 bc95_ssp_sc_7.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:54 bc95_ssp_sc_7.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:54 bc95_ssp_sc_7.5color
-rwxr-xr-x 1 username   1083876 Nov 15 19:54 bc95_ssp_sc_7.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:54 bc95_ssp_sp_1.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:54 bc95_ssp_sp_1.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:54 bc95_ssp_sp_1.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:54 bc95_ssp_sp_1.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:54 bc95_ssp_sp_1.5color
-rwxr-xr-x 1 username   1083756 Nov 15 19:54 bc95_ssp_sp_1.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:54 bc95_ssp_sp_2.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:54 bc95_ssp_sp_2.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:54 bc95_ssp_sp_2.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:54 bc95_ssp_sp_2.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:54 bc95_ssp_sp_2.5color
-rwxr-xr-x 1 username   1083756 Nov 15 19:54 bc95_ssp_sp_2.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:54 bc95_ssp_sp_3.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:54 bc95_ssp_sp_3.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:54 bc95_ssp_sp_3.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:54 bc95_ssp_sp_3.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:54 bc95_ssp_sp_3.5color
-rwxr-xr-x 1 username   1083756 Nov 15 19:54 bc95_ssp_sp_3.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:54 bc95_ssp_sp_4.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:54 bc95_ssp_sp_4.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:54 bc95_ssp_sp_4.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:54 bc95_ssp_sp_4.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:54 bc95_ssp_sp_4.5color
-rwxr-xr-x 1 username   1083756 Nov 15 19:54 bc95_ssp_sp_4.ised
-rwxr-xr-x 1 username     28356 Nov 15 19:54 bc95_ssp_sp_5.1color
-rwxr-xr-x 1 username     30414 Nov 15 19:54 bc95_ssp_sp_5.2color
-rwxr-xr-x 1 username     30415 Nov 15 19:54 bc95_ssp_sp_5.3color
-rwxr-xr-x 1 username     30828 Nov 15 19:54 bc95_ssp_sp_5.4color
-rwxr-xr-x 1 username     15583 Nov 15 19:54 bc95_ssp_sp_5.5color
-rwxr-xr-x 1 username   1083756 Nov 15 19:54 bc95_ssp_sp_5.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:54 bc95_ssp_sp_6.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:54 bc95_ssp_sp_6.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:54 bc95_ssp_sp_6.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:54 bc95_ssp_sp_6.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:54 bc95_ssp_sp_6.5color
-rwxr-xr-x 1 username   1083756 Nov 15 19:54 bc95_ssp_sp_6.ised
-rwxr-xr-x 1 username     30171 Nov 15 19:54 bc95_ssp_sp_7.1color
-rwxr-xr-x 1 username     32379 Nov 15 19:54 bc95_ssp_sp_7.2color
-rwxr-xr-x 1 username     32380 Nov 15 19:54 bc95_ssp_sp_7.3color
-rwxr-xr-x 1 username     32823 Nov 15 19:54 bc95_ssp_sp_7.4color
-rwxr-xr-x 1 username     16468 Nov 15 19:54 bc95_ssp_sp_7.5color
-rwxr-xr-x 1 username   1083756 Nov 15 19:54 bc95_ssp_sp_7.ised
-rw-r--r-- 1 username     30171 Dec 19 14:19 bc95_tau1_sp_1.1color
-rw-r--r-- 1 username     32379 Dec 19 14:19 bc95_tau1_sp_1.2color
-rw-r--r-- 1 username     32380 Dec 19 14:19 bc95_tau1_sp_1.3color
-rw-r--r-- 1 username     32823 Dec 19 14:19 bc95_tau1_sp_1.4color
-rw-r--r-- 1 username     16468 Dec 19 14:19 bc95_tau1_sp_1.5color
-rw-r--r-- 1 username   1083752 Dec 19 14:19 bc95_tau1_sp_1.ised
-rw-r--r-- 1 username        43 Nov 17 09:21 cosmo.dec
-rw-r--r-- 1 username       255 Nov 17 09:21 csp.dec
-rw-r--r-- 1 username     42687 Dec 19 17:36 csp.f
-rw-r--r-- 1 username       230 Nov 17 09:25 csp.sh
-rw-r--r-- 1 username       305 Nov 17 09:22 filter.dec
-rw-r--r-- 1 username    134184 Nov 17 09:22 filterfrm.res
-rw-r--r-- 1 username      7554 Nov 17 09:22 filters.log
-rw-r--r-- 1 username      5642 Dec 19 17:40 galaxevpl.f
-rw-r--r-- 1 username        47 Nov 17 09:21 recycle.dec
```