GALEV evolutionary synthesis models on the web
http://www.galev.org

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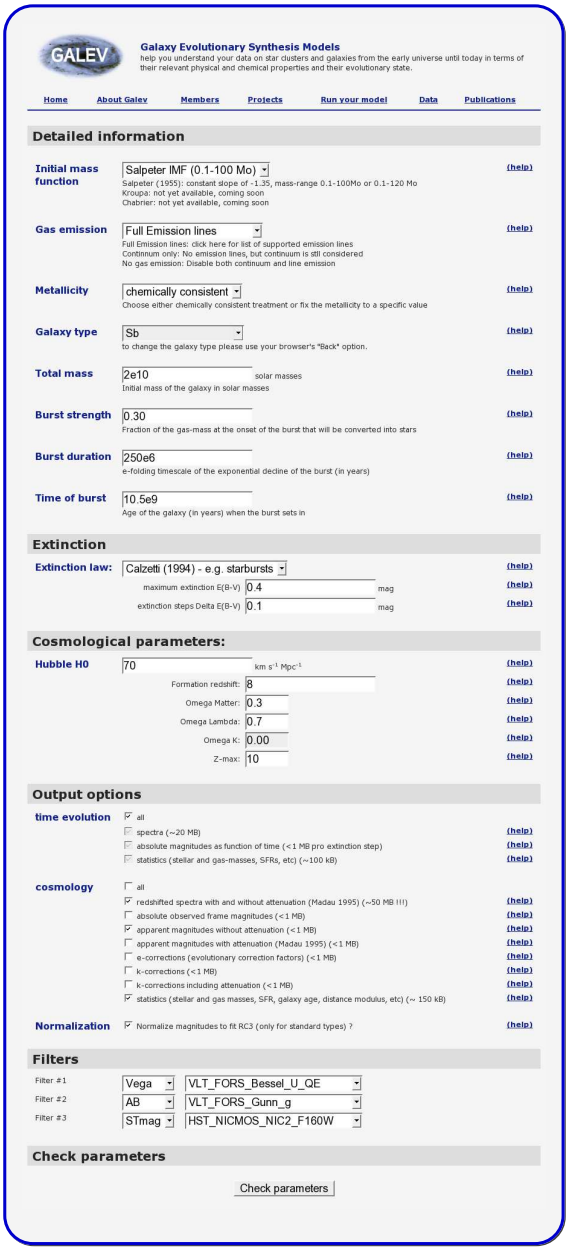
GALEV evolutionary synthesis models describe the evolution of stellar populations in general, of star clusters as well as of galaxies, both in terms of resolved stellar populations and of integrated light properties over cosmological timescales of ≥ 13 Gyr from the onset of star formation shortly after the Big Bang until today.

GALEV includes a simultaneous treatment of the chemical evolution of the gas and the spectral evolution of the stellar content, allowing for what we call a chemically consistent treatment: We use input physics (stellar evolutionary tracks, stellar yields and model atmospheres) for a large range of metallicities and consistently account for the increasing gas abundances and hence increasing initial abundances of successive stellar generations.
Here we present the latest version of the GALEV evolutionary synthesis models that are now interactively available at **http://www.galev.org**.



Model parameters

- We offer a selection of the most frequently used **Initial Mass Functions** (IMFs): Salpeter and Kroupa
- **Gaseous emission** can be switched off or on, and contains line and/or continuum emission.
- The **metallicity** can be fixed or set to chemically consistent.

To describe galaxies you specify:

- **Galaxy mass**
- **Galaxy type**: We offer
  - standard spectral types E . . . Sd,
  - exponentially declining SFRs,
  - SFRs proportional to the gas-mass,
  - constant SFRs, and
  - user-defined SFHs for which the user specifies the SFR at each time.
- **Starbursts** or **Truncation** scenarios can be added to all galaxy types.

To describe observations the user can also specify:

- **Extinction** We offer the following extinction-laws:
  - Calzetti for starburst galaxies
  - Cardelli for more quiescent galaxies
- **Cosmological models** can be specified via:
  - Hubble constant H_0
  - Energy density Ω_M and Ω_Λ
  - Formation redshift
- **Filter sets** are required to compute magnitudes in the Vega-, AB- or ST-system

Output options

Direct output from GALEV

- Integrated **spectra and magnitudes** as function of time
- **Stellar and gaseous masses**
- **Star formation rates** and
- ISM **metallicities**

Combined with a cosmological model:

- **Redshifted spectra** with and without attenuation
- Absolute **magnitudes**
- Apparent and attenuated apparent magnitudes
- Cosmological **k-corrections** with and without attenuation
- Evolutionary **e-corrections**

If extinction was specified:

- All above parameters for each extinction step

How long does it take?

- To configure your model: $\approx$ **5 min.**
- To compute it: $\lesssim$ **10 minutes**, depending on parameters, output and CPU load on our server

Upcoming features of the web-interface

New input physics

- Extended isochrone sets
- Further and/or higher resolution spectral libraries
- User-defined IMF shapes (only for SSPs)

New output options

- Stellar absorption features, e.g. Lick indices
- Colour magnitude diagrams
- Detailed chemical abundances