

{{lastupdated_at}} by {{lastupdated_by}}

GModelSky

Description

This class implements a sky model that is factorized into a spatial, a spectral and a temporal component. The factorization is given by

$$S(\vec{p}, E, t) = S_{\text{sp}}(\vec{p} | E, t) \cdot S_{\text{E}}(E | t) \cdot S_{\text{t}}(t)$$

where

- $S_{\text{sp}}(\vec{p} | E, t)$ is the spatial component,
- $S_{\text{E}}(E | t)$ is the spectral component, and
- $S_{\text{t}}(t)$ is the temporal component.

The spatial component describes the energy and time dependent morphology of the source. It satisfies

$$\int S_{\text{sp}}(\vec{p} | E, t) d\Omega = 1$$

for all E and t , hence the spatial component does not impact the spatially integrated spectral and temporal properties of the source.

The spectral component describes the spatially integrated time dependent spectral distribution of the source. It satisfies

$$\int S_{\text{E}}(E | t) dE = \Phi$$

for all t , where Φ is the spatially and spectrally integrated total source flux. The spectral component does not impact the temporal properties of the integrated flux Φ .

The temporal component describes the temporal variation of the total integrated flux Φ of the source.