Inversion

Input parameters
- Location
- Atmosphere (COSMO)
- Aerosol (AERONET)
- Albedo (constant)

libRadtran

Simulated clear–sky irradiance

$$G_{\mathrm{tot,PV},\tau}^{\angle} \qquad G_{\mathrm{tot,SW},\tau}^{\angle}$$

Input parameters
- Ambient temperature
- Wind speed
- Sky temperature

Spectral mismatch

$$\xi_{\mathrm{spec,GTI}}$$

Interpolation

Calibrated parameters   **Interpolated data**

Inverted PV model

DNI/DHI/GHI

Clear/Overcast

AOD/COD   **1D LUT**

Broken clouds

All sky GHI   **3D LUT**

Cloud fraction   **Clearness index**   **All sky GTI**