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Role of the Earth's albedo in radiative transfert of sun radiation to the ground

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The UVB and total irradiance are measured on the ground by two pyranometers placed at the Observatoire de Haute Provence (France). On this site, we also benefit of ozone, nitrogen dioxide, water vapour, clouds and aerosols measurements by dedicated instruments as well as meteorological data. The Madronich and Flocke's model has been used and we have extended its domain of predictions up to the IR. We also have implemented some improvements which were validated by comparing observations and predictions. The model has several inputs as the surface albedo which is a sensitive parameter. It plays an important role especially at great solar zenith angle and for the UVB domain given the multiscattering processes between atmosphere and ground. For the model, the surface albedo is assumed to be Lambertian with a wavelength dependence. By making a comparison between the model predictions and observations, the validity of these assumptions is tested. Local albedo data, obtained from spacecraft observations, are used. They allow improvements of the model predictions. Results will be presented as a function of season.