



Comparison between high quality UV-measurements and 3-D-Monte-Carlo radiative transfer calculations around Innsbruck

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Radiative transfer in complex topography, e.g. in the Alps, still poses a series of challenges. To determine the influence of variable albedo due to snow cover, shadowing effects and multiple scattering on mountain slopes in a cloudless atmosphere, two measurement campaigns were carried out in September 2007 and February 2008. Measurements of the UV actinic flux and irradiance were performed with two Bentham spectroradiometer and additional instrumentation, e.g. LIDAR, Skycam, ocean optics spectrometer around Innsbruck. The high quality measurements were compared with model calculations. The modified 3-D-Monte-Carlo model GRIMALDI is used to model the radiation field in the alpine region around Innsbruck. The topography is taken into account using a high resolution digital elevation map with inclined surfaces. Preliminary results are presented. Further model modifications are planned in the future.