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## Use of remote sensing for hydrological parameterisation of Alpine catchments

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**Abstract.** Physically-based water balance models require a realistic parameterisation of land surface characteristics of a catchment. Alpine areas are very complex with strong topographically-induced gradients of environmental conditions, which makes the hydrological parameterisation of Alpine catchments difficult. Within a few kilometres the water balance of a region (mountain peak or valley) can differ completely. Hence, remote sensing is invaluable for retrieving hydrologically relevant land surface parameters. The assimilation of the retrieved information into the water balance model PROMET is demonstrated for the Toce basin in Piemonte/Northern Italy. In addition to land use, albedos and leaf area indices were derived from LANDSAT-TM imagery. Runoff, modelled by a water balance approach, agreed well with observations without calibration of the hydrological model.

**Keywords:** PROMET, fuzzy logic based land use classification, albedo, leaf area index

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