Abstract

The turbulent flows over flat terrain are quite good understood but we know little about those turbulent flows over complex terrain. In order to get a better understanding of the flow regimes over complex terrain, a station on a steep slope on the valley side of the Inn valley in Tirol, Austria, was examined for winter and spring months.
As this slope is affected not only by the thermally driven slope flows but also synoptically driven winds, the main aim was to distinguish between thermally driven katabatic winds and synoptically driven foehn winds. Therefore nocturnal data was generated in order to make the situations comparable, because the foehn winds also occur during daytime. Also four different datasets were used, one for katabatic and three for potential foehn winds.
It was found that the differentiation between thermally driven katabatic winds and synoptically driven winds was quite good, but the verification of foehn winds towards other synoptically driven winds was not as clearly possible.