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RADAR REMOTE SENSING OF SNOWFALL

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Résumé :

Snowfall is the dominant type of precipitation in high altitude or/and latitude regions, and its quantification remains a challenge. Ground-level observations are hampered by the strong adverse influence of wind on snowflakes, and remotely sensed observations suffer larger uncertainties than in rainfall because of the variety of geometric and dielectric properties of ice crystals compared to raindrops. Polarimetric radars provide relevant information to better characterize and understand snowfall. During this presentation, X-band polarimetric radar data from different field campaigns conducted in the Alps will be used to illustrate original processing techniques adapted to snowfall, as well as to investigate snowfall microphysics (through hydrometeor classification and dominant process identification).