# Hydrochemical processes of subsurface water during snowmelt season in a nival mountainous watershed

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d18O, SiO2 and major inorganic ion concentrations of meltwater, subsurface water, spring water and streamwater in a nival mountainous watershed were observed to clarify the hydrochemical processes of the subsurface water during snowmelt season.

The temporal and spatial variations of SiO2 concentration indicate that there are two geographic sources of groundwater (such as shallow groundwater and deep groundwater) in the ground. The SiO2 concentration of the deep groundwater is higher than that of the shallow groundwater. The source of old water (which calculated by hydrograph separation using d18O and chloride) with low outflow was the deep groundwater and the source with high outflow was the shallow groundwater.