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Drone-based glacier GPR data acquisition: a summary of the 2022 fieldwork season

Abstract: The Swiss Alps experienced extreme ice loss and record high temperatures during the summer of 2022. At the same time, the 2022 fieldwork season was greatly successful in terms of our acquisition of high-resolution 3D and 4D ground-penetrating radar (GPR) data on Alpine glaciers. With our newly developed drone-based system, we were able to collect an unprecedented quantity of high-density GPR data, amounting to a total of approximately 300 line-km, divided between four glaciers in the Swiss Alps (Otemma glacier, Findelen glacier, Morteratsch glacier, and Rhone glacier). In this contribution, we will briefly summarize these acquisitions and show some of the first data examples.