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## Matching crystal habits and radiosonde profiles in Northern Finland

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Crystal habits encode atmospheric conditions. Temperature and relative humidity with respect to ice and liquid water are the microphysical drivers of the growth of snow crystals in terms of shape, size and degree of riming, while cloud thickness and the related growth time of crystals are the dynamical drivers. According to current versions of Nakaya's habit diagram, rather large and eventually rimed crystals are formed above supersaturation. Below supersaturation compact and unrimed snow crystals are to be expected. In this study, we combine radiosonde profiles with snowflake images captured at the surface by a multi-angle snowflake camera during two-and-a-half winter seasons in Northern Finland (67.367 °N, 26.629 °E). Our objective is to quantify how well crystal habits correspond with what would be expected from radiosonde profiles at this continental site in the Arctic.