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## DEFORMATION ANALYSIS OF THE DOESEN ROCK GLACIER (AUSTRIA)

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In the framework of a multidisciplinary research project on high-mountain permafrost in the Austrian Alps, a comprehensive deformation analysis of the active Doesen rock glacier (Hohe Tauern range) was carried out using various geodetic and photogrammetric methods. In 1995 a monitoring program was established in order to obtain geomorphometric parameters of the Doesen rock glacier for the past, present and future. Precise geodetic measurements within an observation network are acquired on a regular basis applying classical and also navigation satellite-based methods. Aerial photographs (1954, 1969, 1975, 1983 and 1993) were photogrammetrically evaluated. The flow vectors reveal that the horizontal velocity observed in the center of the rock glacier has decreased from  $29 \text{ cm a}^{-1}$  (1954-1975) to  $17 \text{ cm a}^{-1}$  (1975-1993), whereas recent measurements (1995-1996) indicate a significant increase in flow velocity ( $29 \text{ cm a}^{-1}$ ). Furthermore, this analysis also includes an evaluation of volumetric changes of the Doesen rock glacier.