

Development of a numerical ice-sheet model for simulation of summit dynamics

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Ice divides are important locations for deep drilling on ice-sheets.

Precise computation around a divide requires spatially very high resolution due to the characteristics of ice-flow around the divide.

In addition, ice flow pattern is significantly different between an ice divide and the other areas: the flow around the divide requires more stress terms to compute than the other area, which is still a challenging topic due to its heavy cost of computation.

This study presents a recent development of Ice sheet model for Integrated Earth system Studies (ICES) in particular, for improvement and inclusion of higher-order mechanics.

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