

Stresses in glaciers

Methods of Calculation

In this book, for the first time, a hitherto unknown general solution of the reliably known stress conditions is presented. This general solution forms a reliable and new starting point to get further in stress calculations than before.

In this way, approximately realistic solutions can be found despite a recurring problem: the information deficits that are unavoidable due to the difficulty of exploring glaciers. This issue is demonstrated by the example of stagnating glaciers.

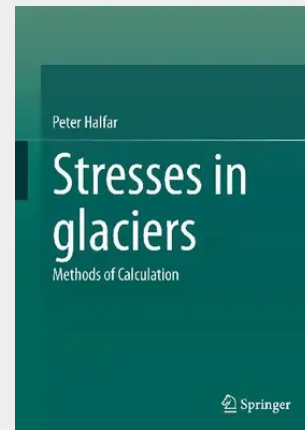
For horizontally isotropic homogeneous tabular iceberg models, even mathematically exact unambiguous solutions of all relevant conditions are presented.

All calculations use only elementary arithmetic operations, differentiations and integrations. The mathematical fundamentals are presented in detail and explained in many application examples. The integral operators specific to calculations of stresses facilitate the mathematical considerations. The stand-alone text allows the reader to understand what is involved even without considering the formulas.

The author

Peter Halfar is a theoretical physicist. He also developed a model of the movement of large ice caps (1983), which is still in use today.

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