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Nonsteady channel flow of ice as a modified second-order fluid with power-law viscosity.

(English) [Zbl 0757.76001](#)

Arch. Ration. Mech. Anal. 119, No. 1, 35-57 (1992).

This work involves the study of a newly proposed constitutive model, associated with the flow of ice, which seems to be a composite of the second-order and power-law models. The author claims that since this “modified second-order” model deserves further study one should first investigate fundamental problems. With this in mind, the author proceeds to demonstrate that the initial-boundary-value problem which pertains to the isothermal unsteady channel flow of a modified second-order fluid that adheres to the boundary, is well posed. Furthermore, when the driving force is steady, the velocity field approaches that of Glen’s flow law suggesting that the modified model may be an improvement on previous models. This work merits attention if only for the discussions it would provoke.

Reviewer: [H.Ramkissoon \(St.Augustine\)](#)

MSC:

[76A05](#) Non-Newtonian fluids

[86A40](#) Glaciology

Cited in **21** Documents

Keywords:

[isothermal flow](#); [initial-boundary-value problem](#); [Glen’s flow law](#)

Full Text: [DOI](#)

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