



Stationary dynamic regimes of ice-floater interaction

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Description:

Interaction of a moored or dynamically positioned floater with level and broken ice is a complex dynamical phenomenon, which can be significantly influenced by the motion of the floater, resulting in prediction with a high level of uncertainty. These uncertainties arise from a relatively large variance in the ice properties and a high sensitivity of the interaction process to these properties. On the other hand, as research in the field of complex systems suggests, the more complex a dynamical system, the fewer stable stationary regimes it admits. In application to the ice-floater interaction, this means that stationary regimes of the ice-floater interaction may exist, which are insensitive to relatively large variations in the ice parameters. For design purposes the stationary regimes of this interaction process is of interest as they most often drive the design of floaters in ice.



Goal:
This PhD project will focus on identification of the situations, in which ice-floater interaction may result in a stable stationary dynamic regime and on specification of the levels of uncertainty in the ice parameters which make these regimes admissible

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