Melting with complications

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Abstract

In this talk we will focus on the melting dynamics of controlled experiments and simulations in canonical geometries to further our understanding of melting processes. In particular, we will showcase a variety of configurations with different complications. We will discuss the dynamics of melting with prescribed morphology and how this morphology evolves. We will look into the case where the ice contains particulate contaminants to mimic the sand and debris inside glacial ice. We investigate how this further modifies the melting process. Often melting ice appears next to other pieces of ice such that collective effects can also become important, we will show idealized simulations investigating the presence of nearby ice. Lastly, we will look into the melting of ice in oscillatory flow in order to investigate tidal flows.

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