
Internal waves in tidal stratified estuaries and fjords

Daniel Bourgault^{*†1}, Peter Galbraith , and Cédric Chavanne

¹Institut des sciences de la mer de Rimouski (CANADA) (ISMER) – 310, allée des Ursulines Rimouski,
QC, G5L 3A1, Canada

Abstract

Tidal stratified estuaries and fjords are favourable environments for the generation of internal waves. Being fairly narrow and confined, they offer the hope that the full life cycle of naturally-occurring nonlinear internal wavetrains, from generation to propagation and dissipation, could be captured from field experiments. These environments are sometime presented in the literature as being sort of "natural laboratories". The reality is that even in those environments internal waves behave in complex manners that are difficult to observe and apprehend. In this presentation, a variety of field observations of nonlinear internal waves collected in the Saguenay Fjord (Canada) will be presented with the goal to identify and discuss some challenges we are facing in terms of measuring and understanding the behaviour of internal waves in natural environments.

*Speaker

†Corresponding author: daniel.bourgault@uqar.ca