1128-35-94 **Joseph Nakao*** (`nakaoj@seattleu.edu`) and **Katie Oliveras** (`oliveras@seattleu.edu`).
Reconstructing the water-wave profile from pressure measurements in a moving body of water.

A new method that recovers the water-wave surface elevation from pressure measurements at the bottom of the fluid is modified. Whereas any background fluid motion is typically ignored, the modified formulation includes the effects of a background current. By analyzing the structure of a nonlocal nonlinear partial differential equation for fluid motion known as Euler's Equations, a map relating the pressure and surface elevation is derived. From this new relationship, various asymptotic formulae are derived and then tested for accuracy using both numerical and experimental data. (Received February 15, 2017)