

Abstract Submitted
for the DFD06 Meeting of
The American Physical Society

Waves on a vortex in a stratified fluid PAUL BILLANT, LadHyX, CNRS-Ecole Polytechnique, 91128 Palaiseau, France, STEPHANE LE DIZES, IRPHE, CNRS, 49 rue F. Joliot Curie, BP 146, F-13384 Marseille cedex 13, France — We investigate the waves of a vertical Rankine vortex in a strongly stratified fluid. These waves are very different from their well-known counterpart in homogeneous fluid (Kelvin waves). They exist only for non-axisymmetric azimuthal wavenumbers, their frequency is always positive and strikingly, they are weakly unstable because of radiation towards infinity. Asymptotic results that hint the instability mechanism will be presented.

Paul Billant
LadHyX, Ecole Polytechnique, CNRS, France

Date submitted: 31 Jul 2006

Electronic form version 1.4