



## **Acoustic-gravity waves, in solid earth, ocean and atmosphere**

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General acoustic–gravity wave theory concerns coupling between gravity and acoustic waves in fluids and solids. It is an emerging field that is rapidly gaining popularity among the scientific community, as it finds broad utility in atmospheric dynamics, physical oceanography, marine biology, geophysics, and even quantum analogues. This talk is an overview on acoustic–gravity waves, with emphasis on recent developments, current challenges, and future directions. Particular examples are the nonlinear interaction of acoustic-gravity waves [1], early tsunami detection [2] and mitigation [3], and apocalyptic horns in the atmosphere.

### References:

- [1] U. Kadri and T.R. Akylas, 2016. On resonant triad interactions of acoustic-gravity waves. *J. Fluid Mech.*, 788, R1(12 pages), doi:10.1017/jfm.2015.721
- [2] C.C. Mei and U. Kadri 2018. Sound signals of Tsunami from a slender fault. *J. Fluid Mech.* vol. 836, pp. 352–373
- [3] U. Kadri, 2017. Tsunami mitigation by resonant triad interaction with acoustic-gravity waves. *Heliyon*, doi: 10.1016/j.heliyon.2017.e00234