



## Resurgence of Greenspan Resonance in Meteotsunami Dynamics

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Originating from atmospheric pressure disturbances, meteotsunamis undergo amplification processes through resonances such as Proudman, Greenspan, and bay/harbor. While Greenspan resonance is often overlooked due to its moderately amplified waves, its recurrent nature makes it a crucial factor in meteotsunami magnification. We briefly review prior analytic studies using linearized shallow water equations on a constant slope with the propagation of Gaussian atmospheric pressure, providing insights into the background of our research. Additionally, we present two recent meteotsunami cases, the June 2009 event in the West coast of Korea, and the October 2018 event in the coast of Portugal, to emphasize the pivotal role of Greenspan resonance in enhancing meteotsunamis. Our study includes data analysis, numerical simulations, and comparisons with analytical solutions. This work was supported by the project FAST (Development of new forecast skills for meteotsunamis on the Iberian shelf – ref. PTDC/CTA-MET/32004/2017), and by I.P./MCTES through national funds (PIDDAC) – UIDB/50019/2020-IDL, both funded by the Fundação para a Ciência e a Tecnologia (FCT), Portugal.

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