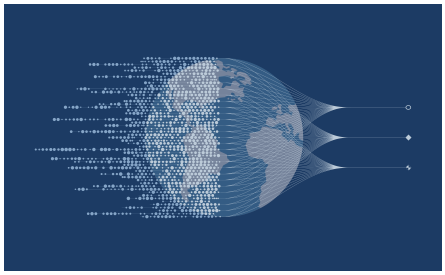

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Hydroacoustic Signatures of Aircraft Crashes: Insights from the MH370 Case *

Aircraft crashes into oceans generate unique hydroacoustic pressure signals detectable across vast distances. This study leverages data from the Comprehensive Nuclear-Test-Ban Treaty Organization's hydroacoustic network to examine the acoustic signatures of historical aircraft incidents. Specifically, the analysis revisits the disappearance of Malaysia Airlines Flight 370 (MH370) and explores the plausibility of its crash leaving discernible signals at hydrophones. Through systematic analysis of acoustic signals during MH370's final trajectory, plausible signals were identified within the expected time and spatial parameters. Challenges in detection, such as bathymetric barriers and noise interference, underscore the complexity of analysing such events. To validate findings, this study proposes controlled explosion experiments mimicking the energy release of a high impact crash. The findings highlight hydrophones' potential in detecting long distance acoustic signatures, offering a novel approach for crash investigation in oceanic environments. By advancing our understanding of acoustic signal propagation, this research provides critical insights into MH370's unsolved mystery while contributing to the development of methodologies for analysing comparable incidents. The proposed experimental framework offers actionable recommendations for enhancing future search and rescue operations.

- U. Kadri, 2024. Underwater Acoustic Analysis Reveals Unique Pressure Signals Associated with Aircraft Crashes in the Sea: Revisiting MH370. Scientific Reports 14 (1), 10102

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