

UNDERWATER RADIATED NOISE FROM MARINE PROPULSION

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ABSTRACT

Underwater radiated noise (URN) from marine propulsion is today acknowledged as a major issue, due to its environmental impact [1]. Therefore, increasingly stringent regulations are expected in the near future [2], aimed at mitigating the detrimental effects of the sound from shipping on marine fauna, besides improving the comfort of marine transportation for both crew members and passengers. Meanwhile, stealth capabilities are especially important for military vessels. Both assessment and mitigation of URN require significant efforts. Suitable numerical approaches need to be developed for improving our ability of evaluating and predicting accurately the sound radiated from ships and underwater vehicles. As pointed out in the recent literature on the subject [3], this computational effort is especially demanding in the field of marine propulsion. Cavitation phenomena typically affecting the flow through marine propellers make this problem computationally even more challenging [4]. The predictive capabilities of computational approaches are crucial at design stage, with the purpose of developing propulsion systems and mitigation strategies able to minimize their acoustic footprint.

This session welcomes the submission of works reporting the most recent advancements dealing with the assessment of the sound originating from marine propulsion as well as the development of mitigation strategies for reducing its acoustic signature.

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