

Highlights

On the complementarity of the slender-body and Newman's approximations for difference-frequency second-order wave loads on slender cylinders

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- A slender-body approach to compute 2nd-order loads at mean body position is discussed;
- This approach presents an interesting complementarity with Newman's approximation;
- This complementarity is not easily exploitable for floating bodies;
- The relevance of Rainey's axial-divergence and rotation force terms is shown.