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# The effect of stratified current forces on the exposed man-made structures in marine environment

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*We have studied the effect of strongly stratified flow forces generating internal waves on elements of different structures in marine environment using both analytical and numerical approaches. We obtained integral representations for wave resistance and lifting force affecting elements of the structures both in upper and bottom layers of stratified flow. We carried out numerical calculations for real sea flows. We revealed conditions for hydrodynamic reactions to elements of structures to achieve extreme values.*

**Keywords:** *stratified flow, wave resistance, lifting force, internal waves, underwater obstacle.*

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