



## Reply

### Author's response

Thank you very much for the comments on our manuscript "Numerical Investigation of Laminar Natural Convection on a Heated Vertical Plate Subjected to a Periodic Oscillation". Following are the answers to the comments.

We agree that it is of practical importance to know the force required to oscillate the vertical plate. But as far as we are interested in, the plate oscillation is caused by ocean waves. So the mechanical power is not evaluated in the manuscript.

In the manuscript,  $2\pi f x_0$  represents the maximum oscillation velocity of the plate.  $u_c$  the characteristic velocity by Dr. Saeid is similar to  $u_{\max}$  in the manuscript, which is the maximum flow velocity in the velocity boundary layer of a stationary plate.

In the problem considered in the manuscript, the flow and temperature field (Heat transfer) should develop

into periodic steady and the results presented are after that time.

The solution domain considered to be two-dimensional one was made to achieve a complete efforts to capture flow field instead of symmetry one.

The time step should become smaller during high frequency. It is a very good question.

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