



## **Horizontal convection due to cooling from the bottom**

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There are many kinds of fluid motion which is driven by density difference and is subject to the effects of rotation and stratification. Horizontal convection due to localized cooling from the bottom is our concern.

Recently, we have shown that the time evolution of the fluid motion can be classified into three regimes and the marginal state between them for a non-rotating case. And we have also shown the self-similarity of each time evolution of the flow regimes.

Since the previous results are consistently interpreted by the nature of physical processes such as "gravity wave", "gravity current" and "diffusive processes", they should be easily extended to a rotating case. Theoretical predictions based on our previous theory are verified by numerical experiments. According to those results, we suggest a suitable nondimensionalization and the flow regime diagram of the horizontal convection.