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Tiruvallam N. Krishnamurti
Guosheng Liu
Editors

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An application of Universal Kriging Algorithm to the identification of mesoscale eddies in the Northwestern Pacific Ocean

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Summary

Owing to the inevitable drawbacks of prevailing eddy identification methods, we proposed a new Universal Kriging Algorithm with a simplified set of criteria and higher speed. Signal fields were computed on the Sea Level Anomaly data. An optimization is acquired after removing trends and noises in the signal fields by interpolation. Amplitudes and vari-values are correlative, making it possible to extract locations and extents of vortices by few characteristic isolines. The success/excess of detection rate is around 90% /less than 20% respectively. It shows a high accuracy and flexibility in detecting mesoscale eddies comparing to the prevailing algorithms.

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