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## **On optimal solution error in the variational data assimilation problem for the ocean thermodynamics model**

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The variational data assimilation problem is formulated as an optimal control problem for the ocean thermodynamics model with the cost function involving the sea surface temperature. The equation for the error of the optimal solution is derived through the errors of the input data (background and observation errors). The numerical algorithm is developed to study the sensitivity of the optimal solution error using the Hessian of an auxiliary data assimilation problem based on the tangent linear model constraints. The work was supported by the Russian Foundation for Basic Research (grants 06-01-08055, 06-01-00344).