N-SYMMETRIC INTERACTION OF N HETONS

M. A. Sokolovskiy [a,b], K. V. Koshel [c,d], D. G. Dritschel [e], and J. N. Reinaud [e]

ABSTRACT. This work is devoted to the search for N-symmetric solutions of the equations of dynamics of two-layer geostrophic eddies with zero total intensity and the analysis of these solutions. Families of new stationary solutions are obtained and their properties, including asymptotic ones, are investigated. From the point of view of geophysical applications, the results can be useful in explaining the propagation of thermal anomalies in the oceans.

[a] Water Problems Institute of RAS, Moscow, Russia.
[b] Shirshov Institute of Oceanology of RAS, Moscow, Russia.
[c] Pacifc Oceanological Institute of FEB RAS, Vladivostok, Russia.
[d] Institute of Applied Mathematics of FEB RAS, Vladivostok, Russia.
[e] Mathematical Institute, University of St Andrews, North Haugh, United Kingdom.