



## **Is the Baltic deep-water Transport through the Stolpe Trench hydraulically controlled?**

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The sub-surface flow of high-saline water masses from the Bornholm Basin through the Stolpe Channel plays an important role for the renewal of the Baltic Central Basin deep waters. In order to determine whether this process can be adequately described on the basis of rotating  $1\frac{1}{2}$ -layer hydraulic theory, theoretical predictions based on climatological data from the Bornholm and Gdansk Basins have been undertaken. Since noteworthy discrepancies were found, similar hydraulic considerations were also applied to more-or-less synoptic field data from a Finnish field campaign carried through in the mid-1980s. Also in this case significant differences were found between observations and predictions. It has thus been concluded that a hydraulic framework may be inappropriate for describing the long-term characteristics of the Stolpe channel deep-water flow, most likely due to the combined effects of friction and wind-forced upper layer motion.