



New evidence for the upstream path of the Denmark Strait overflow water through the Iceland Sea

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Denmark Strait overflow water (DSOW) is one of the main components of the thermohaline circulation in the North Atlantic. Observations have shown that a substantial part of it is transported to the sill along the Icelandic continental slope. This current has been measured annually in November from 2001 - 2004 with a vessel mounted 75 kHz ADCP on the Hornbanki section north of Iceland. In 2005 the measurements were made in August and they were extended to include also a section about 40 nautical miles east of the Kolbeinsey Ridge. A similar current structure was found there as on the Hornbanki section. The bottom depth was greater or roughly 700 m beneath the core of the current on the section close to the Kolbeinsey Ridge than on the Hornbanki section where the corresponding bottom depth was about 600 m. CTD data from the 2005 cruise are used to compare the water mass properties along the path from the Kolbeinsey Ridge to the Denmark Strait sill.