Geophysical Research Abstracts,
Vol. 10, EGU2008-A-00408, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-00408
EGU General Assembly 2008


# Warm intrusions in the intermediate layer of the Black Sea eastern gyre interior

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The new CTD data from the R/V Akvanavt 2002 cruise presented and discussed in this study, show that lateral limits of the Bosphorus lens penetration into the Black Sea interior are substantially wider than the earlier observed ones. The data reveal unexpectedly thick warm lenses in the 150–500 m depth range within the eastern gyre of the Black Sea. Thus, we provide observational evidence that the Bosphorus warm water penetration into the sea interior is not a local phenomenon confined to the southwestern and central parts of the western gyre (the intrusions have been previously observed only there), but rather a fundamental basin-wide process determining the intermediate layer structure in the Black Sea, as was recently assumed on the basis of the numerical modeling results.