



## **Vertical mixing estimations in the DP from full-depth LADCP surveys in 2006, 2008 and 2009**

A. Renault (1), C. Provost (1), Y. H. Park (2), and E. Fahrbach (3)

(1) LOCEAN-CNRS, Université Paris VI, IRD, MNHN, 4 Place Jussieu, 75252 Paris Cedex 05, France. , (2) Laboratoire d'océanographie Physique, Museum National d'Histoire Naturelle, 43 rue Cuvier, 75005 Paris, France., (3) Alfred-Wegener-Institute, Postfach 12 01 61, D-27515 Bremerhaven, Germany

The Drake Passage (DP) is the narrowest constriction through which the ACC must pass and has a rough and complex topography. Previous observations suggested that mixing rates were elevated in the Southern Ocean up to depths of a least 1500 m of the bottom. Turbulent diapycnal eddy diffusivities  $K_z$  were up to three orders of magnitude higher than background values in the Drake Passage and the Scotia Sea. In January/February 2006, two CTD-LADCP full-depth high resolution sections were performed in the Drake Passage within 3 weeks, following the ground track 104 of Jason satellite on board of the R/V Polarstern. Two LADCPs were mounted on the CTD rosette and measured with a high quality horizontal velocities from surface to bottom at each CTD station. Vertical mixing rates over the entire water column were estimated from the LADCP data with the "shear" method. These estimations will be completed with estimations from LADCP data collected in 2008 and 2009 along the same transect. The different physical processes potentially responsible for the mixing will be discussed.