

**GPS MEASUREMENTS OVER THE VLNDEF NETWORK, NORTHERN VICTORIA LAND, ANTARCTICA**

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VLNDEF (Victoria Land Network for DEFormation control) project started in 1999 with the aim to detect crustal deformation in Northern Victoria Land. The third complete survey has been done in 2005-06 campaign, after the other two complete surveys realized in 1999-00 and 2002-03 campaigns.

In NVL the TNB1 GPS permanent station has been working since 1998, in addition to the Cape Hallett remote station was installed in 2004.

GPS data were processed using software with different solution approaches : Bernese ( V.4.2 and 5), Gipsy and Gamit. The network solutions obtained from different software were compared in terms of coordinates and velocity determination.

Preliminary deformation analysis based on the three surveys and based on some partial measurements repetitions is done. Relative and absolute displacements have been estimated using a local and a regional approach, both able to detect valuable movements and, the second, to refer the network to a global reference frame (ITRF).