



A new geomagnetic reference station in Brest (France) dedicated to marine applications

Jean-Francois Oehler (1), Jean-Pierre Boivin (1), Sylvain Lucas (1), Didier Rouxel (1), Corinne Salaun (1), and Vincent Lesur (2)

(1) Shom (French Hydrographic Office), Marine Geophysics, 13 rue du chatellier, Brest cedex 2, France (jean-francois.oehler@shom.fr) , (2) IPGP (Institut de Physique du Globe de Paris), National Magnetic Observatory , 1 rue Jussieu, 75238 Paris CEDEX 05, France

The future installation of a new geomagnetic reference station at the Shom's site in Brest (France) is validated through comparisons with measurements collected during several months at the French national magnetic observatory of Chambon-La-Forêt (CLF), located more than 500 km inland. The Shom's station is mainly needed to more accurately reduce external diurnal and agitation variations of the external magnetic field in marine magnetic data acquired in the Iroise Sea, the British Channel, the Bay of Biscay and to the North-East Atlantic Ocean. Comparative tests are performed to correct marine surveys using both Shom and CLF reference data provided through Intermagnet (Love and Chuillat, 2013). Results show that external low frequency diurnal disturbances are clearly better mitigated with the local station. Moreover, the intrinsic quality and precision of surveys can be improved by over 5 to 30% for shallow coastal surveys.