

¹²⁹I concentrations in surface and deep seawater from the Irish Sea and the Atlantic Ocean

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In this work, ¹²⁹I concentrations in seawater samples from the Irish coast and from the Extended Ellet Line (from Scotland to Iceland) are presented, including both surface samples as well as two depth profiles at the Atlantic Ocean. The results aim to increase and update the information on the presence of this radionuclide in the Atlantic waters.

Surface water ¹²⁹I along the Irish coast, directly affected by Sellafield discharges, is 3.2×10^{10} at./kg in average. Measured ¹²⁹I concentrations along the EEL are typically in the order of 10^8 at/kg, slightly over the results obtained by Alfimov *et al.* [1] in waters sampled nearby in 1999. Also, our results are about one order of magnitude lower than those previously found in the Irminger Basin [2] and in the Arctic Oceans [3].

The two EEL depth profiles show different shapes, as shown in figure 1. Profile 1 decreases with depth, due to dilution. However, profile 2 shows the highest ¹²⁹I levels in the deepest waters. The North Atlantic Deep Waters current from the Arctic Ocean Profile and enriched in ¹²⁹I was probably sampled in Profile 2

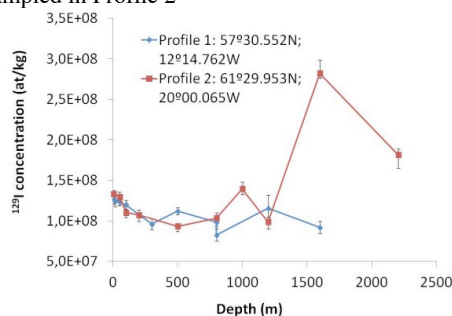


Figure 1.

[1] Alfimov *et al.* (2004). Nucl. Instr. Meth. Phys. Res.B **223–224**, 446–450. [2] Gómez-Guzmán *et al.* (2013). Nucl. Instr. Meth. Phys. Res.B **294**, 547–551. [3] Alfimov *et al.* (2013). Nucl. Instr. Meth. Phys. Res.B **294**, 542–546.

The platinum behavior in the North Atlantic Ocean

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We studied the water mass influence over the dissolved platinum levels and its behavior in the North Atlantic. 24 profile stations were sampled during the GEOTRACES cruise in early-spring 2010. 5 water mass were found in the profile: the North Atlantic Deep Water, Denmark Strait Overflow Water, Labrador Sea Water, Iceland and Scotland Overflow Water and Western North Atlantic Central Water. We found different platinum concentration within the different water masses. Platinum concentration increased with depth. The intermediate Atlantic water formation should have an influence on the higher platinum concentration, and could be used as a tracer. However, no significant statistical differences were observed.