

22-29/01/2011: week 1 - From La Valletta (Malta) to Pylos (Greece)

We left La Valletta on a magnificent Monday morning, warm and sunny as it is hard to imagine in January (especially coming from the Netherlands!). On board, scientists are mainly Dutch (with a few Latin exceptions), mainly from the Oceanographic Institute NIOZ, but a bunch of astrophysicists is also present. They follow the testing phase new designed compact mooring device with a lot of interest. The purpose of the cruise is further testing of this device for KM3NeT, a submerged neutrino telescope that will be searching for astrophysical neutrinos in one of the less noisy environment on Earth, the deep sea (~3000 m). In this framework, different Earth and Marine science measurements are also required, exploring and monitoring the deep sea conditions.

From Monday to Thursday morning the weather has been nice, allowing us to follow the cruise plan. The 2000 m long mooring that was deployed a year ago has been recovered successfully, bringing us tons of data from the NIOZ High Sampling rate Thermistor string, from current meters and an optical device.

Moreover, we deployed twice a lander on the bottom of the sea (near Italian NEMO site and near Greek NESTOR site) for 24 hours, obtaining a series of nice pictures of life down there that we disturb with our iron blocks and bait (Fig. 1).

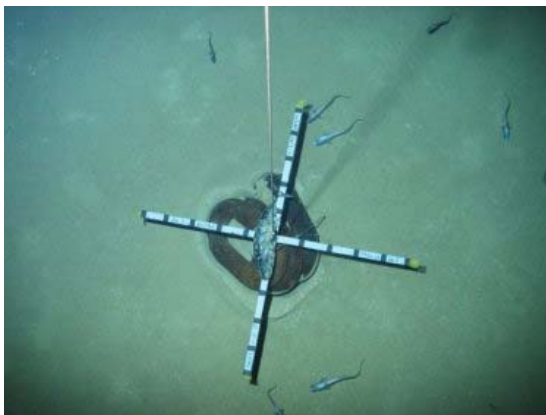


Fig. 2: One of the pictures taken by the lander at 3400 m, near NEMO site. Group of Coryphaenoides Mediterraneus

Thursday afternoon. The (first) deployment (Fig. 2), immediately after the sunset, was followed by recovery with a very tough winch session, with the wind starting blowing hard. The big sphere and the line with all 25 glass spheres (of

Up to now, and due to the weather conditions, we have performed just one night of deep CTD yo-yo (plus a short German lesson to be able to speak with the winch man through the radio!).

The deployment and recovery of the compact mooring took from Wednesday to



Fig. 1: First deployment of the compact mooring

which 20 instrumented) came back on deck. The video from the camera mounted on the bottom weight, and the accelerometers in the spheres have been immediately analyzed, in order to understand the performance for the next launch.

Despite the weather conditions, some other short-term moorings have been deployed on our way to Pylos (Greece), included a clever NIOZ-prototype for a compact, self-unrolling oceanographic mooring. For the visible part, the launch and the unfolding of the line with the two current meters worked as predicted, but we will check better after the recovery.

After the shacking night with wind into force 9, the bay of Pylos welcomed us on Friday afternoon to stretch our legs, to exchange some scientists and to re-mount quietly the entire big sphere, without the need for running after the spheres, rolling on deck with each wave!

29/01. – 04/02/2011: week 2 - From Pylos (Greece) to Valletta (Malta)

(Rapporteur Tassos Belias)

This weeks operations were located in the west Ionian sea. The day we left Pylos, on 29-01-11, we recovered the lander (Project CoralFish) and we took deep-sea CTD measurements throughout the night. On Sunday, 30-01-11, the major task was the recovery of a 3300 m mooring line, in operation for 1 year, equipped with optical sensors and with 100 high accuracy temperature sensors. While the line was pulled onto the ship the sensors were retrieved and inspected by the scientific observers. This recovery was followed by shallow water CTD measurements throughout the night.

Meanwhile the compact mooring with 25 glass spheres (LOM) was being prepared on the deck of the ship to be deployed on Monday, 31-01-11. The final preparations prior to the deployment were made on Monday morning, including placing the LOM on its anchor base, starting the sensors, etc. While lowering the LOM into the water it got entangled in a fishing line, so it was brought back on deck cleared up and deployed without any problems. The release of the LOM, the unfurling of the string and the recovery of it all was done on the same day, in the afternoon.

On the Tuesday, 01-02-11, the operations included the recovery of the lander (Project CoralFish) from about 5000m depth, the calibration of the high accuracy temperature sensors with the CTD in the deep-sea and the unfurling tests of the LOEI, a wind-up mooring line, deployed in the afternoon and recovered on Wednesday, 02-02-11, morning. We continued with the lander (Project CoralFish) deployment, followed by another test deployment of the LOEI.

On Thursday, 03-02-11, first we recovered the mooring line deployed the day before with the LOEI and went on with recovery of the lander (Project CoralFish). On Friday, 04-02-11 we recovered the last mooring line with high accuracy temperature sensors and proceeded with the calibration of these temperature sensors with the CTD in the deep-sea. This concludes this weeks' operations.



The lander (Project CoralFish) recovered.



The LOM picked up from the surface after unrolling.



The LOEI without weight.