

NEMO

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The NEMO collaboration (km³ from January 2013), in the framework of the KM3Net initiative, aims at building a km³ scale Cerenkov neutrino detector in the Mediterranean Sea. During the year 2012 the collaboration has completed the construction of NEMO Phase II, an 8 floor tower to be deployed at the final site, 100 km SE of Capo Passero, in the spring of 2013, taking advantage of the electrooptical cable already deployed from the site to the counting room in Portopalo.

In 2012 the LNF group installed four PORFIDO probes in the NEMO Phase II apparatus with the assistance of the LNS group responsible for the assembly of the Optical Modules.

In the mean time the KM3Net collaboration is developing the design of the PPM, (PreProduction Module), to be deployed in 2014, containing the DOM (Digital Optical Module), a 17" glass sphere containing 31 small PMTs. The LNF group, as a consequence, has developed PORFIDOM, a version of PORFIDO that can be fitted in the new DOM.

In 2012 the LNF group has continued the development of the PORFIDO probes adding a 24 bit ADC with a PT100 temperature probe, that is read by the WISP and provides a temperature measurement with the accuracy of 0.001°C. Alternately we are developing a salinity monitor that can be connected to the same ADC with a resolution of about 1 ppm.

These new developments will be installed on the Phase 3 towers.

Publications

KM3NeT Collaboration (S. Adrian-Martinez et al.),
Detection Potential of the KM3NeT Detector for High-Energy Neutrinos from the Fermi Bubbles, [arXiv:1208.1226](https://arxiv.org/abs/1208.1226) [astro-ph.HE], in press.