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Operation and results of the prototype KM3NeT detection unit

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KM3NeT will be a km3-scale neutrino telescope in the Mediterranean Sea. The detector will consist of several blocks of about one hundred detection units. Each detection unit will host 18 Digital Optical Modules (DOMs), connected along a 700 m-long vertical structure. Electro-optical cables allow for data transmission and power supply to the DOMs. The optical module comprises 31 photomultipliers of 3", as well as various instruments to monitor environmental variables. A prototype detection unit has been deployed in May 2014 at the KM3NeT-It installation site 100 km SE of shore of Capo Passero, Sicily. This prototype allowed to test the deployment procedures, the mechanics and the electronic of the apparatus, the data taking and analysis procedures. A general description of the detector and the preliminary results of the prototype are presented. It is expected that the first detection units of the KM3NeT neutrino telescope are deployed and become operative early 2015.

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