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A launching vehicle for optical modules of a deep-sea neutrino telescope

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KM3NeT is a future deep-sea research facility that will be built at depths between three and five kilometres in the Mediterranean Sea. The facility will host a neutrino telescope consisting of several hundreds of detection units - vertical mechanical structures that suspend the optical sensor modules of the telescope. During the design phase of the KM3NeT telescope, two mechanical designs for the detection unit have been worked out, one of which is a mooring consisting of two parallel ropes with 20 optical sensor modules attached at regular intervals; a data cable runs along the full length of the structure. For this design, which usually is referred to as a string, a novel deployment method using a recyclable launching vehicle has been successfully tested during two cruises in the Ionian Sea. We will present the design and the results of the deployment tests.

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