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Measurement of light scattering in deep sea

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The deep-sea neutrino telescope in the Mediterranean Sea, being prepared by the KM3NET collaboration, will contain thousands of optical sensors to readout. The accurate knowledge of the optical properties of deep-sea water is of great importance for the neutrino event reconstruction process. In this study we describe our progress in designing an experimental setup and studying a method to measure the parameters describing the absorption and scattering characteristics of deep-sea water. Three PMTs will be used to measure in situ the scattered light emitted from six laser diodes in three different wavelengths covering the Cherenkov radiation spectrum. The technique for the evaluation of the parameters is based on Monte Carlo simulations and our results show that we are able to determine these parameters with satisfying precision.

Primary author: MARAGOS, Nikos (NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS")

Co-authors: Dr LENIS, Dimitrios (NCSR DEMOKRITOS); Dr STAVROPOULOS, George (NCSR DEMOKRITOS); Dr BALASI, Kostantia (NCSR DEMOKRITOS); MANIATIS, Manolis (—); DOMVOGLOU, Theodoros (NCSR DEMOKRITOS)

Presenter: MARAGOS, Nikos (NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS")

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