



## **The new generation of optical instruments for the POSEIDON system: current status and first observations**

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The Poseidon monitoring and forecasting system for the Hellenic Seas has entered its second phase. During this stage, currently under implementation, among other improvements a new generation of optical instruments has been scheduled to be installed and some of them are already operational. These instruments monitor (a) apparent optical properties-AOPs: surface incident irradiance at seven wavelengths, water leaving radiance at seven wavelengths, broadband scalar irradiance (PAR) at four depths; (b) Inherent optical properties-IOPs: hyperspectral beam attenuation and absorption throughout the visible at 80 wavelengths with a 4nm resolution, turbidity (back scattering at 140deg) at four depths; (c) chlorophyll-a fluorescence at four depths. This paper describes in detail the instruments selected and installed and discusses calibration and bio-fouling issues. Furthermore it presents data observed during six months of operation in the Cretan Sea.