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Antares: a seismological broad-band sensor at 2500m in Mediterranean Sea

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In the frame of the Antares experiment designed for neutrino detection in a large water volume, important marine facilities have been deployed at sea floor in deep water (2500m), 30km off shore of Toulon (France). The integration of a broad-band seismometer (Guralp CMG3 type, 360sec) has been realized on the instrumental line dedicated to environmental measurements and benefits of power and data transmission facilities. The instrument (a 3 components Guralp sensor, CMG3 type, 360sec associated with a DMG24 digitizer) was designed by Guralp Systems to find the best compromise between a good coupling with ground in a large band width and a simple installation on the seafloor by a Rove.Time is controled sending a periodic pulse well calibrated in the Antares clock. Instrument control and data collection in quasi real time are performed through asynchroneous RS232 connexion driven by a dedicated software. During a first test deployement in April 2002, a power failure occurred few hours after the connexion so that no data were collected. The next deployement is planified for March 2004 with new cables and connectors, revised sensor and improved communication software.