MAGSALIA - SUBMARINE OIL & AQUIFER FIELDS DETECTION

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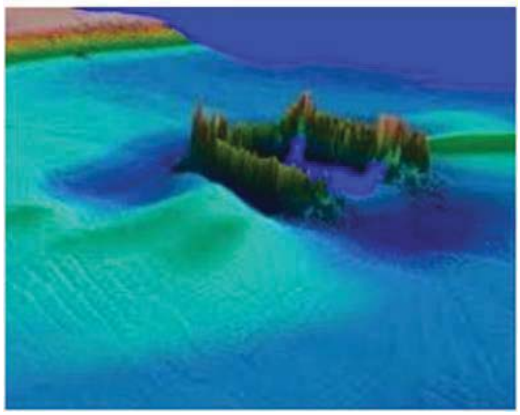
□ Key words

Advanced engineering (including robotics / control systems) - Communications - Sensors / instrumentation / electronics - Software engineering / development

□ Description



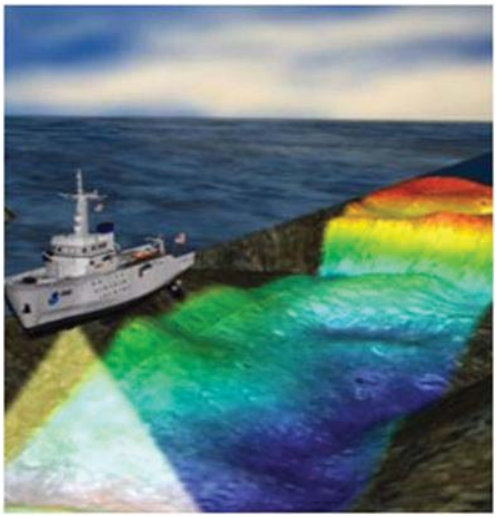
A **new submarine instrument for the research of oilfield and aquifer** has been developed in a laboratory specialized in oceanic studies. The MAGSALIA technology enables measuring the electronic and magnetic fields of the sedimentary rocks.
The system instrument records both the natural Electro-Magnetic activities of the rock (EM method) and the Marine Controlled Source Electro-Magnetic signals (MCSEM method).It thus enables the study of rocks at different depths and is particularly interesting for deep sea research, generally limited with classical methods.
The internal architecture of the instrument is also innovative. The sensors are assembled and interconnected in an original manner. Moreover, this instrumentation is very light and manageable. It is possible to use several instruments of this kind at the same time to cover large submarine areas.

Applications

- Oilfield exploration,
- Aquifer detection
- Detection of metallic structures

Innovative features

- Combination of two techniques: EM and MCSEM
- High resolution 3D tomography thanks to magnetic signal acquisition
- Associated with multibeam sonar the process boosts the relief of the digital terrain (detection of seabed anomalies)
- Investigation in deep water
- Very light and manageable instrument



Examples

- Detection of buried objects ()
- Detection of seabed anomalies
- Oil and aquifer fields

□ **Applicability of Technology to Maritime SMES**

Oilfield Exploration, Aquifer Detection, Detection of metallic structures