Compact Deep-tow Multi-sensor System for Marine Geological and Geophysical Surveys.

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We develop a high-resolution deep-tow seismic system combined with proton magnetometer and side-scan sonar for deep-sea survey. We see several advantages in deep-tow survey systems, although survey efficiency of a deep-tow system is much lower than that of an ordinary surface survey system. We tried to install three instruments(sensors)in the same towing frame, so that several different kinds of geological and geophysical data can be acquired simultaneously. Our multi-sensor system consists of a deep-tow seismic profiler, a deep-sea side-scan sonar and a deep-tow proton magnetometer in a compact towing frame, all of which could be used independently. The new deep-tow system is suitable for identifying submarine active faults.