

***Interactive comment on “Technical Note:  
Animal-borne CTD-Satellite Relay Data Loggers  
for real-time oceanographic data collection” by  
L. Boehme et al.***

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General Comments:

The paper provides an interesting description of a compact CTD sensor with a satellite based near real time measurement capability. The sensor system discussed allows mammal based remote ocean measurement data collection. A detailed introduction is used to describe the purpose of and the motivation for the technique used. Information relating to how mammal based sensor system can complement and expand the measurement data provided by more traditional approaches to remote ocean measurements such as Argo floats is also provided. While this kind of measurement technique

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is not particularly novel in its principle or application, the paper describes a well engineered compact and robust sensor system. In order to implement the required sensing system an amalgamation of existing technologies into a compact package with an appropriate power source suitable for remote long term deployments has been achieved. The requirements for sensor calibration checking and data quality control have also been addressed. The development of such a sensor system represents a significant technical advancement that is both worthy of and suitable for publication.

Specific Comments in Relation to the Content of the Paper:

For section 2 perhaps clarification or a table of the design constraints would help to specify the system capabilities, power source capability, system endurance etc. This could help to reinforce in clear terms the technical challenges of the design. In addition to this it could be helpful to mention why Argos was selected as the preferred telemetry mechanism (in house expertise, compact transmitter, rapid data transfer/unidirectional broadcast mode? etc).

P1268 lines 5 to 10 describe that any pressure sensor offset detected at the surface is reset to zero to compensate for drift. Table 1 refers to a series of lab based calibrations and then post calibration tests. For this type of sensor, has any change in linearity been observed over time? – Perhaps this should be mentioned to justify just resetting any pressure sensor offset to zero to compensate for drift.

Section 3 describes the use of an inductive conductivity cell, which is probably a good choice in terms of robustness and cell geometry. However, I do feel that the argument is a little weak in justifying this. For a moving animal, a non pumped electrode cell would probably produce acceptable performance. Electrode based cells, while often of a delicate construction, tend not to be affected as much as inductive cells by the immediate environment (mammal tissues, cable ties etc). In addition to this, mentioning the typically smaller geometry and a tendency towards poor resistance to fouling of electrode type designs would probably help to reinforce the argument for using an

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inductive cell.

Perhaps something should be discussed about the possible effects of instrument fouling (biological/particulate?).

Technical Corrections: typing errors, etc:

The final part of the caption for Table 2 should read sent and not send.

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Interactive comment on Ocean Sci. Discuss., 6, 1261, 2009.