

Interactive comment on “Technical note: GODESS – A profiling mooring in the Gotland Basin” by Ralf D. Prien and Detlef E. Schulz-Bull

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Thank you for reviewing our manuscript "Technical note: GODESS - A profiling mooring in the Gotland Basin". We are sure that modifications to the manuscript, triggered by your comments, will improve the manuscript.

Yes, a review of the state of moored winch systems would be a good thing. Such a review would be a separate manuscript, though, as a Technical note in Ocean Science is supposed to be "short (a few pages only)" as stated in the description of manuscript types. Ideally it would also need a wider pool of authors to draw in experience with the different profiling mooring types and concepts. In a review the technical details of our GODESS mooring would also be too detailed.

A link between the PIP and the winch using inductive modems is certainly feasible

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(and has been realized for this type of underwater winch by another group successfully (B. Fiedler, pers. comm.)). This can be achieved either by replacing the Kevlar line by a cable or by adding inductive couplers on the latch for the hook of the winch and the lower part of the PIP (as you suggest in the comment). In both cases the data logging would be doubled up, as the Sea & Sun CTD already contains a data logger. The added safety for data comes with the increased complexity and increased power demands (albeit a very moderate increase compared to the total energy installed on the winch already).

The risk of loss of data could be decreased also by adding a satellite beacon on the PIP, that would be sending position data once the PIP is drifting on the surface. As these beacons are self-contained with own battery supply it wouldn't increase the complexity of the system. Admittedly this solution is more feasible in the Baltic Sea, where a drifting PIP cannot get it away and it would be much easier to find a research vessel nearby that could pick it up.

The suggested monitoring of battery level could most probably be realized. The information on the controller electronics used in the winch is sparse, though, and it would necessitate a complete redesign of the controller electronics. Since we now have the experience of how much energy is taken out of the batteries (and we usually measure the energy left in the primary batteries after a deployment) the risk of running out of energy is well reduced to a failing battery or exceptionally high currents that demand an increased motor current for reeling the PIP back in.

We will endeavour to add some of the points you raised in the discussion to make the manuscript useful for a wider audience.

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