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Ocean Science
Discussions

Interactive comment on "Numerical modelling of thermodynamics and dynamics of sea ice in the Baltic Sea" *by* A. Herman et al.

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Of course, if the type of our sea-ice model is concerned, we agree with the reviewer that it is based on well known formulae and can be regarded as a "typical" sea-ice model. We state that clearly in the Introduction section of our manuscript. In our view, it is not the sea-ice model itself that we regard as a really important (and new) component of our paper. In our opinion, the main contribution of this work is twofold: Firstly, we find that quantitative verification (in space and time) of sea-ice modeling results is still relatively rare in the literature, although it is indisputably important; our comparisons of the simulated and satellite-derived ice concentrations are a small step in that direction. Secondly – and most importantly – we use the modeling results to investigate relationships between the synoptic-scale atmospheric forcing and the sea-

ice response in the basins of the Baltic Sea. The number of studies related to the short-term variability of sea-ice conditions in the Baltic Sea has been rather small. In our opinion our paper contributes to the knowledge of sea-ice processes in the Baltic Sea in the two aspects listed above.

Regarding the absence of snow in our model (which was mainly caused by the lack of reliable precipitation data at our disposal), we are planning to extend the model to include snow (and multiple ice types) in the future versions. We believe however that this aspect has no substantial influence on the main results of our paper.

If Fig.5 is concerned, in the manuscript that I submitted to OSD it was split onto two pages, so that the panels were larger and more edible. However, in the final version available on the internet, the whole figure has been put on a single page again.

Finally, I would like to apologize for my delayed response to the comments of the reviewer. I was out of office during the lasr four weeks.

Agnieszka Herman

Interactive comment on Ocean Sci. Discuss., 8, 113, 2011.