10 August 2015

Addressing the revisions recommended by Dr. Kaleschke (author's response are in **bold**):

Editor's Comments #1

Editor Initial Decision: Publish subject to technical corrections (05 Aug 2015) by Prof. Dr. Lars Kaleschke

Comments to the Author:
Dear Authors,

thank you for submitting a revised version. The response addresses sufficiently most of reviewers comments. However, I still have to ask for a detail about the sea ice algorithms used. You use "AMSR2" as a synonym for the sea ice concentration product. But there are at least two versions included in the JAXA data. One is the NT2 and the other the Bootstrap algorithm. Which one do you use? For AMSR-E the NT2 was the first choice but this has changed for AMSR2. Thus, I assume you used the Bootstrap product? Please specify.

We added the following sentence in the second paragraph in section 2.2.

"The standard sea ice concentration product hosted by JAXA, and used in this study, was derived using the Bootstrap algorithm."

Furthermore, I have to ask about an "authors contribution" section similar to what you find in Nature/Science. This should appear after the main text and before the acknowledgements.

This section was added to the manuscript as requested and placed before the acknowledgements section.

With this additions I would be fine with the manuscript.

Another comment from my side (with a potential conflict of interest): there are more products available, for example from the University of Bremen and Hamburg. These 89 GHz data products have a resolution similar to MASIE and are useful for high resolution operational sea ice forecast, see http://seaice.de/newswave2014_1.pdf
Beitsch, A.; Kaleschke, L.; Kern, S. Investigating High-Resolution AMSR2 Sea Ice Concentrations during the February 2013 Fracture Event in the Beaufort Sea. Remote Sens. 2014, 6, 3841-3856.

Thank you for sending along your paper. We found it very interesting and added the following sentences in our manuscript in section 2.2:

"Products derived using other algorithms are also available, including one from the University of Bremen that incorporates the higher resolution 89 GHz channels that are capable of capturing finer details within the ice pack (Beitsch et al., 2014). The higher

resolution channels are however more subject to atmospheric influences, particularly near the ice edge and the lower frequency channels are need to remove false ice returns."