

The manuscript and, more importantly, the dataset have been significantly improved. The authors generated a new sea ice motion product at higher temporal and spatial resolution and extended the temporal coverage until October 2021. The manuscript now clearly presents the potential users of the product and the scope of its application. The decision for selecting spatial and temporal resolutions and not mixing S1 and RCN imagery is now clearly justified. The high-quality maps of SIM at lower and higher resolution show the advantages of the proposed new dataset. The methodology for uncertainty computation was simplified and made more robust and versatile. Accuracy of the S1+RCM SIM product is computed by validating against IABP buoys and pixel-by-pixel comparison with NSIDC and OSI-SAF products.

The manuscript consistently documents the ECCC automated sea ice tracking system and the generated sea ice motion product and as such can be recommended for publication after a minor revision.

Minor comments

Table 2 seems to provide too many numbers that are not very relevant for most readers. I would suggest, first, to replace the absolute number of grid cells with a number relative to ice covered cells, or at least to provide the average number of ice-covered cells for the low- and high-resolution products. Second, as seasonality seem to repeat in 2020 and 2021, the number of cells can be averaged for each month, or even each season. Thus, the table can contain just 8 numbers: relative coverage by the low- and high- resolution product in winter, spring, summer, and autumn.

Technical comments

L107. ECCC-ASITS is spelled as ECCC-ASTIS in several places.

L167: between images pairs

L221: What is the average number of grid cells for the high-resolution product? What is the average number of grid cells covered by sea ice?

L222: are is shown

L223: “especially, during” – the comma doesn’t seem to be needed here

L275: “because of its narrow”

L278: “increased”