Interactive comment on "A long-term and reproducible passive microwave sea ice concentration data record for climate studies and monitoring" *by* G. Peng et al.

Anonymous Referee #1

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The article presents a very useful 20-year data set of Arctic and Antarctic sea ice concentrations, based on a merging procedure of the NASA-Team and Bootstrap sea ice concentrations. The data set represents a significant progress because it is unique in the sense that it determines the best possible sea ice concentration values in a consistent and traceable way. It will be useful for more detailed analyses in region and time, and as a benchmark of climate model forcing and testing, and it is complete for the 20 years 1987-2007, with ongoing extensions. The data set fulfills the formal criteria Climate Data Record Program. Specific strengths of the data set are that is contains in addition the NASA Team and Bootstrap ice concentrations it builds upon,

and local ice concentration standard deviations which can be used as uncertainties.

Although the procedure of generating the CDR ice concentrations is explained the the documents at ncdc.noaa.gov/cdr/operationalcdrs.html, the basic ideas should also be presented in this manuscript in order to make it more self-contained.

Detail comments:

page 96 Line 6, p96 and P 98 L22: 25x25 km ->5x25 km2

p100 L6-7: references for the weather filters and land spillover corrections should be given.

P101 L 2-3: Give typical values for variabilities under freezing and melting conditions as examples.

P201 L16: source code package: give more explicit the place (I could not find it) and programming language used.

Figure 2: Consider using a more detailed color table for ice concentrations.

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