

Interactive
Comment

Interactive comment on “The sound speed anomaly of Baltic Seawater” by C. von Rohden et al.

C. von Rohden et al.

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Many thanks to the two Referees for their comments.

Response to Referee#1:

We are grateful for the encouragement.

Response to comments or suggestions of Referee#2:

Comment 1: (Source of North Atlantic water not specified)

The objection is correct. We missed to give closer information about the source of our Atlantic sample, and we will retrieve this. One of the reasons for the choice of the location near Madeira is the low nutrient level.

C1346

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Changes: Insertions in section 2, page 4, and section 2.3, page 9

Comment 2: (Discussion about "Millero's rule")

Referee#2 suggested to be careful assuming validity of "Millero's rule" for many thermodynamic properties beyond its more or less reliable application to density. We agree that our formulation might be somewhat superficial in that context. We welcome the proposal for a more precise formulation and adopt the respective phrase.

Changes: Text changes in section 2.1, page 5

Comment 3: (Suggestion to add lines for sound speed anomaly in Fig. 6 based on Eq.(1))

We calculated the sound speed anomaly Δw based on salinity anomaly (Eq.(1)) for different temperatures (0°C-25°C) using TEOS-10 equations for in Baltic Seawater for comparison with measured data. As suggested, they were added to Fig. 6.

Changes: Added lines in Fig. 6 (dotted lines); modification of the figure caption. Phrases related to Fig. 6 were added or modified in the text (section 3, Discussion).

Additional changes in the manuscript:

In section 2.1 we removed some phrases concerning the Absolute Salinity, because they might be interpreted as opposing to our beforehand statement that the measured dSA_m corresponds to the TEOS-10 Absolute Salinity Anomaly. We also added some text before introducing Eq. (1) for a clearer presentation.

Please also note the supplement to this comment:

<http://www.ocean-sci-discuss.net/12/C1346/2015/osd-12-C1346-2015-supplement.pdf>

Interactive comment on Ocean Sci. Discuss., 12, 2565, 2015.

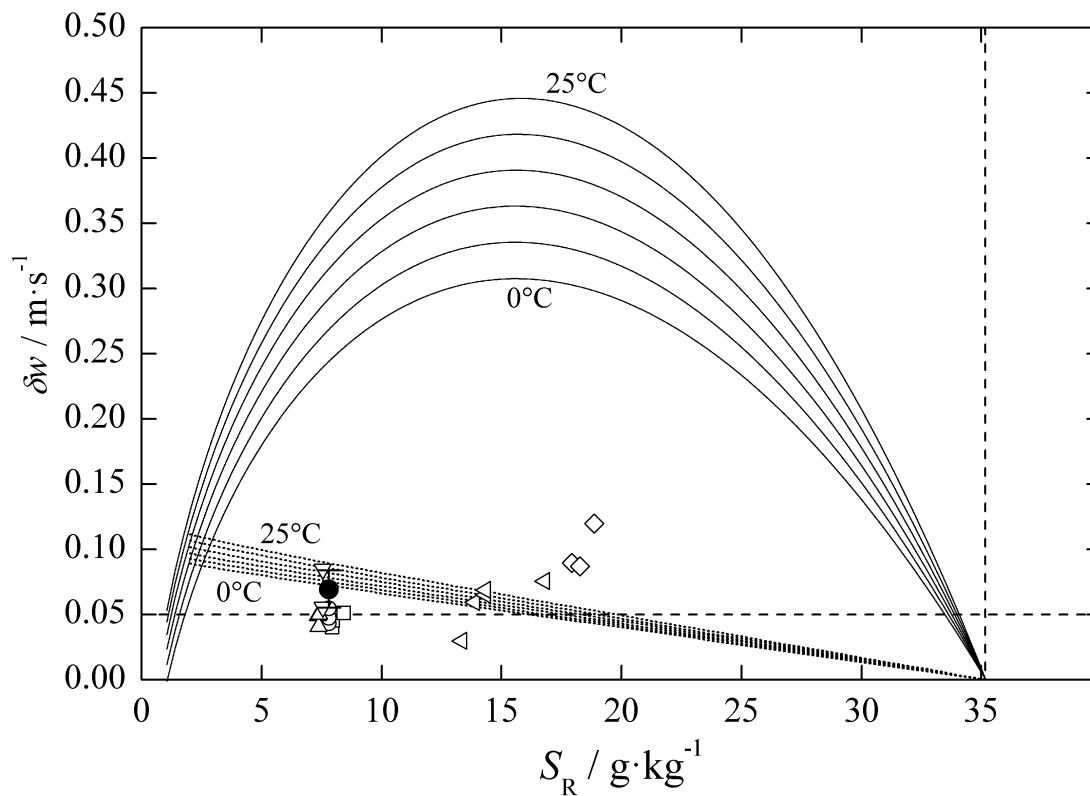
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Fig. 1.

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