**Ocean Science
Discussions**

Interactive comment on "The density of seawater as a function of salinity (5 to 70 g kg^{-1}) and temperature (0 to 90 °C)" *by* F. J. Millero and F. Huang

F. J. Millero and F. Huang

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The corrections were made as suggested by Referee 1 and other typos in the manuscript were corrected.
Also see AC S25 : 'Response to Referee 3 and Corrections' , Frank Millero, 26 Feb 2009,

Corrections Abstract

Line 3 unit added to read
(σ = 0.0036 kg m^{-3})

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Line 12 unit added to read
$S_A = (35.16504/35)S$ g kg^{-1})
Line 12 unit added to read
$S_A = 0$ to 50 g kg^{-1})
Line 16 reference added to read
The earlier density measurements (Millero et al. 1976b; Poisson et al. (1980)
Line 17 reference added to read
equation of state of seawater (Millero and Poisson, 1981)
Line 21 unit added to read
(0 to 70 g kg^{-1})
Introduction
Line 11 unit added to read
$\sigma = 0.0035$ kg m^{-3})
2 Experimental methods
Line 2 corrected to read
Both waters have low nutrient concentrations and had densities that agreed at similar
salinities to $\pm$ 0.003 kg m^{-3})
Line 15 insert sentence after 40°C to read
The measurements at temperatures above 50°C have an estimated uncertainty of $\pm$
0.006 kg m^{-3} based on repeat measurements of the same sample.
Line 17 insert sentence after (Spieweck and Bettin, 1992). These are the densities
that are used by the densimeter. Since we use the system to measure the relative
densities (ρ - ρ^0), the water values used do not affect our results.
3 Results and discussion
Line 22 unit added to read 4 to 50 g kg^{-1}
Line 23 unit added to read to 70 g kg^{-1}
Sentence corrected to read
This is similar to the errors in the repeat density measurements (± 0.003 kg m^{-3}) on
the same sample and indicates that the salinities calculated by conductivity (S) and

Chlorinity (S_{Cl}) are in agreement to $\pm$ 0.004 g kg^{-1}

Equation (5) has been rewritten to be unitless in the salinity dependence Equation (5a) term to read

A/(g kg^{-1})

Equation (5b) term to read

B/(g kg^{-1})$^{-5}$

Equation (5c) term to read

C/(g kg^{-1})^{2}

Delete the sentence

Somewhat larger errors occur at high temperature and low salinity.

Next sentence add term

S_A g kg^{-1}

Add the following sentence to the end of the Acknowledgement

The manuscript was improved due to the helpful comments of R.A. Feistel and a number of anonymous reviewers.

Corrections Table 1. Summary of the 1 atm density measurements made on seawater.

Std Error column the unit should read kg m^{-3}

Corrected Table 2. The coefficients for the densities measured in this study fitted to equation (2).

In last line the Std. Err. Fit unit should read kg m^{-3}

Corrected Table 3. The coefficients for the densities measured in this study and literature data (Millero et al., 1976; Poisson and Brunet, 1980) fitted to equation (2).

In last line the Std. Err. Fit unit should read kg m^{-3}

Interactive comment on Ocean Sci. Discuss., 6, 153, 2009.

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