SC C92: 'Short comment', Olaf Hellmuth, 08 May 2009

Nr	Question	Answer
1	Eqs. (4) & (5): insert full lower and upper summation indices (cf. Eq. (7));	Corrected
2	P. 696, line 13: remove colon after "where" (cf. also p. 699, line 25);	Corrected
3	P. 697, line 7: $\Delta\rho = \pm(0.1 \text{ to } 0.3)$ kg·m^{-3} or $\Delta\rho/\rho = \pm(0.01 \text{ to } 0.03)$ % (several times);	Corrected
4	P. 698, Eqs. (6) & (7): It is unlucky to chose the symbols A, B, C to denote the temperature dependent coefficients, because A and B have already been used to denote the functions in Eqs. (4) & (5). The same is true for the coefficients in the polynomials. Maybe, one can use additional subscripts. Please check compatibility of summation indices in Eq. (7). B and C contain a temperature-independent term, A does not. Is this correct? Summation indices in Eq. (12) are wrong, if the summation indices in Eq. (7) are correct and vice versa.	Corrected
5	P. 700, Eqs. (14) & (15): The term $\alpha_T = \gamma$ should be introduced as the isochoric thermal pressure coefficient by $\alpha_T = (\partial p/\partial T)_\rho$. Ensure self-consistency of annotation.	Corrected to α_p
6	P. 700, line 19: shown in Fig. 11;	Corrected
7	P. 700, Eq. (16): Measurement variable is density, but not volume, i. e. $p_{\text{int}} = T\left(\frac{\partial p}{\partial T}\right)_\rho - p$	Corrected
8	P. 701, Eq. (17): With consideration of Eq. (8) the bulk modulus is defined as $K = -V\left(\frac{\partial p}{\partial V}\right)_T = \rho\left(\frac{\partial p}{\partial \rho}\right)_T = k_T^{-1}$. Thus, the values of both K and k_T should contain the same information (Figs. 7 & 13). What motivates the use of secant bulk modulus according to Eq. (17) instead of tangent bulk modulus? Secant bulk modulus requires definition of both (p,V) and (p_0, V_0). What is assumed for p_0 in Eq. (17) ?	$K = k_T^{-1}$. Yes this is correct and we have also same results. Secant bulk modulus requires definition of both (p,v), but also only v_0. The values of $v_0 = 1/\rho_0$ are the extrapolated results to p=0.101 MPa.
9	Whole paragraph from p. 701, line 19 to p. 703, line 6: Message is clear. But a data synopsis/survey is, perhaps, more catchy and self-evident in form of a table instead of text.	In the table form it is difficult to write all discussions. The text form is easy for this moment.
10	P. 703, line 7-10: Either split or restructure this sentence (two verbs).	Corrected
11	For all Figures: Have the authors considered to present their results in form of isoline or isosurface plots, e.g., on the abscissa the temperature, on the ordinate the pressure, the value of the two-dimensional function as isolines or a surface? This would allow to show the details of the (nonlinear) polynom surface with fine temperature and pressure resolution. For example, in Fig. 2 the value of $\partial A/\partial\rho$ changes sign at temperatures somewhere in the middle of temperature range.	We will use this remark about isolines in our next papers. A lot Figures in this manuscript has same crossing. Because, seawater has same anomalies like as pure water.

	(The many symbols are difficult to separate from each other for weak eyes such as my's ...).	
12	Fig. 6: How can this figure be interpreted? Fixing pressure, then the scatter along the ordinate originates from the temperature range? Is there a systematic deviation or trend in dependence on temperature? Or is the error scatter irrelevant because of the absolute smallness of the error?	In this figure the percentage deviation of results obtained by fitting by equation of state and experimental results in the experimental temperature and pressure are shown. The experimental results is in zero line.