The work represents a great effort and a reference in trying to coherently compare data within time series.
It underlines the importance of supporting extensive statistical analysis with the critic evaluation of cruises' data, fundamental for accuracy assessment and outlines the different stages of the statistical evaluation of biases: gathering of data, testing for biases, their estimate and assessing uncertainties associated with significant biases.
The paper explains in great detail the criterion used to arrange the statistical population. Particular attention should be made to the fact that the statistical analysis works as long as time-related pH changes among the population are well below of the uncertainty of the biases that are investigated and corrected for. A correlation analysis could accomplish this.
Particular care has been taken in remembering the importance of having proper accuracy in the equilibrium constants for bisulfate and hydrogen fluoride in the computation of the CO2 system.

Understanding all the path of the data in the computation process is essential in order to check, all throughout, their physical meaning: it could be enhanced by a flow chart indicating input and output quantities, main statistical tools used and parameters used for computation.

On table 2, (and accordingly in paragraph 3) equations could be more effectively accessed using subscripts for total sulphate (S_T) and total fluorine (F_T). Accordingly, the stoichiometric constants could be K_S and K_F, and the total scale pH_{TS} could be renamed as pH_T.

The statistical analysis involves pH data coming from a A_T - C_T pairings to get one third of total amount of crossovers. Aiming internal consistency, it is just the case to mention that, with a TA (total alkalinity)- DIC (dissolved inorganic carbon) pairing, an accuracy of ±0.006 on pH is accomplished from accuracies respectively of ±4 µmol kg^{-1} and ±2 µmol kg^{-1} (*) .

Miscellaneous:
- pg. 422, row 9, suggested "*shifts*" in place of "*biases*". A *bias* has an inherent systematic origin and is frequently referred after a statistical investigation.
- pg. 424, row 25, suggested "*contain*" in place of "*diminish*". It could be misleading reading "*to diminish changes* […],*and thus pH*"
- pg 426, row 1, suggested "*which*" in place of "*what*".
- Pg. 427, row17, "*the pK*" in place of "*they pK*"
- Pg 428, row 23, "*are summarized*" in place of "*are the summarized*"
- Pg 447, table 2, first word, "*Equation*" in place of "*Ecuation*"

(*) from "*CO$_2$ in seawater: equilibrium, kinetics, isotopes*" – Zeebe R. E., Wolf-Gladrow D.