

Interactive comment on “Improved quality check procedures of XBT profiles in MFS-VOS” by F. Reseghetti et al.

F. Reseghetti et al.

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General comment

A general revision of the manuscript has been done in order to realize a complete description of tests on XBT probes dropped in Western Mediterranean Sea. The title and the general structure of the paper have been changed: in fact, other XBT characteristics have been analysed, and the arguments described in Appendices are now detailed in the main text. All results are analysed with specific comments, and the explanation of figures and table contents is now in text, instead in their captions. The temperature difference $T(\text{XBT}) - T(\text{CTD})$ has been used. Quality control and analysis procedures have been described with increased precision. The effect of the mass and of the height of launching position on the measurements has been detailed (Table 5 has been excluded). The use of acronyms has been strongly reduced, and all the

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quoted ones have been defined at their first appearance in the text. In the final section, a more complete discussion on the possible use of obtained results is available. All figures have been labelled. Several Tables and Figures (and their captions) have been modified.

Specific comments

We maintain the page number of the reviewer letter in this reply. In any case, all specific comments have been taken into account, namely syntactic or grammatical indications.

Title: the new title is FACTORS AFFECTING THE QUALITY OF XBT DATA. RESULTS OF ANALYSES ON PROFILES FROM WESTERN MEDITERRANEAN SEA.

P 1443: all the quotations to PAPER-I have been excluded. P 1444: a new description of the included effects is done. P 1445: the substitution ATAT has been done. P 1447: a more exhaustive explanation has been prepared. P 1448: the effect of weight variability and the influence of the height of the launching position on measurements and on probe motion have been analysed in detail. The so-called “calibration” has been described in a more general context, and results have been accurately detailed. P 1449: this section has been completely reorganised in order to explain the motivations and the steps of the calculation of new fall rate coefficients. P 1450: the mean of coefficients in linear function has been done in a new way. The interpretation of percent depth error is detailed. P 1451: the terms “systematic” and “bias” have been more properly used. The relation between uncertainty on temperature and depth error has been specified. P 1452: the substitution has been done. P 1453: the conditions of motion for a lighter probe have been re-explained. P 1454: a more clear interpretation of the meaning of the coefficient in linear function describing the temperature difference is done. P 1455-1456: a complete explanation of all the terms and procedures is done in the text, instead in Appendices. References: this section has been improved with several new references. Table 3: the header and the caption have been revised. Table 4: a new caption has been prepared. Table 5-6: these tables have been excluded.

Table 8-9: new captions have been prepared. Fig. 1: the explanation of this figure is in the text. Fig. 2: the figure has been improved. Fig. 3: now, the figure is quoted in the text. Fig. 4-5: the figures have been changed and the comments on their characteristics are in the text. Fig. 6: the figure has been improved. Fig. 7: the figure has been substituted. Fig. 8-9: these figures have been excluded. Fig. 10: this figure has been improved. Fig. 11-12: these figures have been substituted.

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