

Trial to check XBT fall rate and to develop simple numerical model

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We intend to conduct a small project in order to check XBT fall rate using XBT probes currently provided by two XBT manufactures (LMS and TSK), based on CTD/XBT side-by-side inter-comparison experiment, and to develop a simple numerical model for XBT fall rate. This trial is supported by the three-year (FY2011-2013) grant from the Ministry of Education, Sport, Science and Technology (MEXT). In CTD/XBT side-by-side inter-comparison experiment, special probes, weights of which are reduced by 10 grams or 20grams in the air, will be also used. Comparison of data using these weight-controlled special probes will give some useful information on consideration to temporal changes of fall rate, and difference between fall rates of two XBT manufacturers. Simple numerical model will be extended further to include effect of air bubbles which are inherently involved in probes at hitting the sea surface, and effect of existing wind waves and swells.