CTD Data Documentation, RV Sonne Cruise No. 90

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2. Introduction

The Sonne cruise No. 90 was part of the German PAKOMIN project, investigating the influence of the oxygen minimum zone on the sedimentation at the upper continental slope off Pakistan. This project was funded by the Federal Ministery of Reesarch and Technology (BMBF, Bonn , Germany). The leading institute of this cruise was the Federal Institute for Geoscience and Mineral Resources, BGR, Hannover Germany.

The cruise started on the 30th of August 1993 at Karachi (Pakistan) and ended on the 5th of October at Karachi, with Dr. Ulrich von Rad as chief scientist.

3. Instrument specification

Gear:	CTD, ME Meerestechnik GmbH
Resolution:	Temperature ???
	Pressure ???
	Conductivity ???
	Oxygen ???
Accurancy:	Temperature ???
	Pressure ???
	Conductivity ???

4. Data Processing and Quality Estimation

The first step in data processing was the monotoniziation of the downward profile on 1db steps. The applied routines and functions removed the ships rolling effects first and tranferred the data into the general JGOFS CTD data format. To get a rough idea of the data quality, the data were compared with data from the TYRO cruise D2.
Both cruises had their research focus in the same area of the Arabian Sea. The Tyro cruise was carried out in October 1992 and the Sonne cruise in September/October 1993. Assuming that the properties of the very deep Arabian Sea Deep Water did not vary too much from one year to the next, from both cruise data sets a mean profile was calculated with MatLab. The substitution of the mean Tyro profile from the mean Sonne profile helped to make a first guess.

Only values from a depth below 2000 meter were used in this calculation, to avoid any kind of surface and lateral effects .
Temperature seemed to be 0.05 deg C too low in the ME profile, compared with the Tyro data. For the very deep part the result looks better, for the depth range from 2550 meter to 2800 meter the "negativ offset" varied between 0.01 and 0.04 deg C .
The salinity comparison shows a "positive offset" in the range of 0.01 to 0.015, this means in detail the ME probe seems to overestimate the salinity in the Arabian Sea Deep Water.