



## **PS78 processing log**

### **Ship navigation data**

#### **a) Original data**

The original navigation data was extracted from the DSHIP data base on board of R/V "Polarstern" in 1 second interval.

These data sets contain:

- Position from MINS
- Speed from MINS
- Heading from MINS
- Depth from deep water sounder

#### **b) Processing**

##### **I. Processing steps:**

1. Extraction of source data from DSHIP data base
2. Validation of erroneous positions by reviewing speed, time and distance jumps
3. Removing of invalid positions
4. Conversion of data to daily files of 1 and 10 second resolution

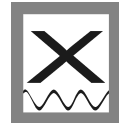
##### **II. Processed data:**

Result of the processing is the verified navigation in 1 second and in 10 second interval, held in ASCII table files (tab delimited) with the following format:

- Column 1: Latitude [decimal degree]
- Column 2: Longitude [decimal degree]
- Column 3: Date [Format: DD.MM.YYYY HH:MM:SS]
- Column 4: Speed [knots]
- Column 5: Heading [degree]
- Column 6: Depth [metres]

##### **III. Statistic**

Data volume 1-second-interval data:	100 MB
First data set:	13.07.2011 15:00:00
Last data set:	03.08.2011 04:30:00
Total number of 1s positions after processing:	1772623
Number of positions missing (DSHIP error values)	3977 (<0.002%)



**c) Cruise plot**

