

KAIREI KR11-01 Shipboard Three Component Magnetometer (STCM)

Last Modified: 2019-06-19

[ReadMe](#) [Observation Data](#) [Data Format](#)

Cruise ID: [KR11-01](#)

Shipboard Three Component Magnetometer (STCM): Processed (DMO)-Corrected

Data Policy: [JAMSTEC](#)

Observation Items: X, Y and Z component of geomagnetic field anomaly, Absolute value of geomagnetic field anomaly

Science Keywords:

OCEANS > MARINE GEOPHYSICS > MARINE MAGNETICS
SOLID EARTH > GEOMAGNETISM

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/KR11-01_all.pdf

For Using Data

Principal Investigator

Data Management Office

Use Constraints

See [Terms and Conditions](#) about constrain of use.

Data Citation

See [Terms and Conditions](#) about data citation.

Period (UTC)

2011-01-04 03:45 – 2011-01-20 00:34

Instrument

Instrument:

3 component magnetometer



Overview

The data provided is for corrected three component geomagnetic field anomalies. Three-axes flux-gate sensors with ring-cored coils were fixed on the roof of the bridge.

They measure the following items :

- h-component : along track line component, positive for the bow direction pitch.
- s-component : across track line component, positive for the starboard side roll.
- v-component : vertical component, positive for the downward direction.

The effect of ship motion was eliminated by roll and pitch data which was provided by a tilt sensor. The apparent magnetic influence can be detected through a "Figure of 8 turn"(a pair of clockwise and anti-clockwise turns) on each cruise. If no Figure of 8 turn on the cruise was completed, the latest Figure of 8 turn from the previous cruise was applied (see section 4.). As a quality control, data of low reliability was removed (see section 5. for quality control criteria).

Synthetic geomagnetic field values were calculated from IGRF models.

Measurement System

(1) Magnetometer

Manufacturer : Tierra Technica Ltd.
Type : SFG1214
Measurement range : $\pm 100,000$ nT
Accuracy : less than 100 nT
Resolution : 1 nT
Location : No.2 Laboratory (Dry laboratory)

(2) Magnetic Sensor

Manufacturer : Tierra Technica Ltd.
Form : flux-gate sensors with ring-cored coils
Location : Compass deck

(3) Attitude sensor and Gyro compass

Manufacturer : IXBLUE
Type : OCTANS
Measurement range : ± 180 degree(Roll), ± 90 degree(Pitch), 0 to +360 degree(Gyro)
Accuracy(Roll, Pitch) : 0.01 degree
Accuracy(Gyro) : 0.05 degree *Secant(Lat.)
Location : Tank top(on the bottom of ship)

Duration of the Figure of 8 turn

On this cruise

Date (UTC)

2011/01/06 23:10:00 - 2011/01/06 23:53:00

2011/01/17 04:01:00 - 2011/01/17 04:42:00

Data processing

The following corrections and calculations were performed.

2019-06-19	An observation data was registerd.
2018-03-14	An observation data was registerd.
2014-09-23	An observation data was registerd.
2013-01-20	An observation data was registerd.

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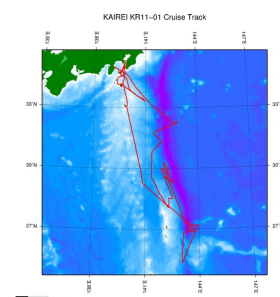
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STCM Corrected

No.	Column	Content	Format	Unit	Remarks
1	1 - 8	Date	i4,i2,i2		YYYYMMDD (UTC)
2	10 -15	Time	i2,i2,i2		hhmmss (UTC)
3	17 -25	Latitude	f9.5	degree	No sign for the northern hemisphere. Negative for the southern hemisphere.
4	27 -36	Longitude	f10.5	degree	No sign for eastern hemisphere. Negative for the western hemisphere.
5	38 -43	X component of geomagnetic field anomaly	f6.0	nT	Positive on the north
6	45 -50	Y component of geomagnetic field anomaly	f6.0	nT	Positive on the east
7	52 -57	Z component of geomagnetic field anomaly	f6.0	nT	Positive for downward
8	59 -64	Absolute value of geomagnetic field anomaly	f6.0	nT	

Related Information



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KR11-01

Ship Name: KAIKEI

Period: 2011-01-04 - 2011-01-20

Chief Scientist: Takeshi Sato (JAMSTEC)

Project Name: [Seismic study]

Proposal: High-resolution structure study in the northwestern Pacific region

Title:

Update History

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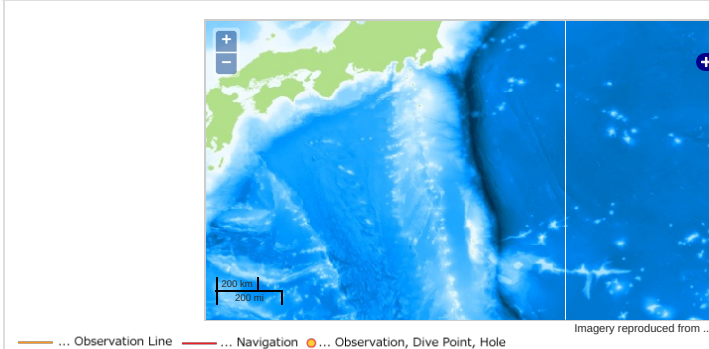
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Science Keywords:

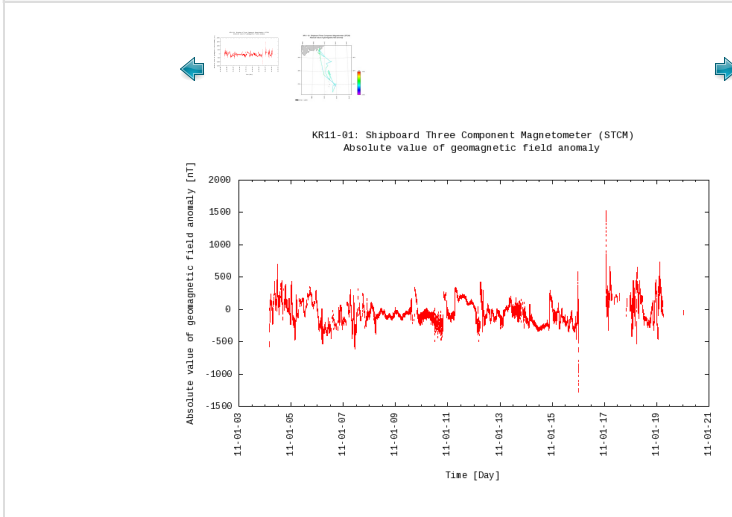
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Observation Map



Figures



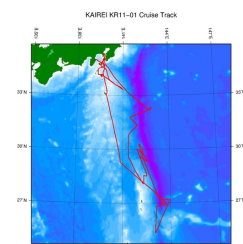
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File names

☐ KR11-01_corr.stcm

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