

## MIRAI MR15-05 Leg1 Doppler Radar

Last Modified: 2018-01-20

### ReadMe

Cruise ID: [MR15-05 Leg1](#)

Doppler Radar: Raw

Data Policy: [JAMSTEC](#)

Observation Items: Reflectivity, Doppler velocity

Science Keywords:

ATMOSPHERE > PRECIPITATION  
ATMOSPHERE > CLOUDS  
ATMOSPHERE > ATMOSPHERIC WINDS  
SPECTRAL/ENGINEERING > RADAR > DOPPLER VELOCITY  
SPECTRAL/ENGINEERING > RADAR > RADAR REFLECTIVITY

### Cruise Report

[http://www.godac.jamstec.go.jp/catalog/data/doc\\_catalog/media/MR15-05\\_leg1\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR15-05_leg1_all.pdf)

### For Using Data

#### Principal Investigator

Data Management Office

JAMSTEC / BPPT joint cruise in the Indonesian waters.

#### Use Constraints

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

#### Data Citation

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

### Instrument

Instrument:

Doppler radar (MR14-04 Leg1 -)



### Specifications

#### Doppler radar

Manufacturer/model: Toshiba Co., Japan/ TW4419A  
Frequency: 5370MHz (C-band)  
Transmitter: Solid-state transmitter  
Pulse configuration : Using pulse-compression  
Polarimetry: Horizontal and vertical  
Peak power: 6kW(H) + 6kW(V)  
Antenna diameter: 4m  
Beam angle: 1.0degree  
Location (from sea surface): 24m (center position of antenna)

#### Inertial navigation system

Manufacturer/model: iXBlue SAS, France / PHINS  
Location (from sea surface): 21m

### Parameter

#### Surveillance Scan

|                                  |           |
|----------------------------------|-----------|
| Scan Interval [min] :            | 30        |
| Elevations[deg] :                | 0.5       |
| Pulse width (short/long) [μs] :  | 2 / 200   |
| Scan speed [deg/sec] :           | 36        |
| PRF*1 [Hz] :                     | 400       |
| Sweep integration (Pulse /Ray) : | 8 samples |
| Ray spacing [deg] :              | 0.7       |
| Bin spacing [m] :                | 150       |
| Max. range [km] :                | 300       |

#### Volume Scan

|                                 |                              |   |                              |      |      |      |
|---------------------------------|------------------------------|---|------------------------------|------|------|------|
| Scan interval [min] :           | 6                            |   |                              |      |      |      |
| Elevations[deg] :               | 0.5                          | 1.0, 1.8, 2.6, 3.4, 4.2, 5.1, 6.2, 7.6, 9.7, 12.2, 15.2 | 18.7, 23.0, 27.9, 33.5, 40.0 |      |      |      |
| Pulse width (short/long) [μs] : | 1 / 64                       | 1 / 32  | 1 / 32                       |      |      |      |
| Scan speed [deg/sec] :          | 18                           | 24  | 36                           |      |      |      |
| PRF*1[Hz]                       | dual PRF (ray alternative)*2 |   |                              |      |      |      |
|                                 | 667                          | 833   | 938                          | 1250 | 1333 | 2000 |

|                                |            |            |            |            |            |            |
|--------------------------------|------------|------------|------------|------------|------------|------------|
| Sweep integration (Pulse /Ray) | 26 samples | 33 samples | 27 samples | 34 samples | 37 samples | 55 samples |
| Ray spacing [deg] :            | 0.7        |            | 0.7        |            | 1.0        |            |
| Bin spacing [m] :              | 150        |            |            |            |            |            |
| Max. range [km] :              | 150        |            | 100        |            | 60         |            |

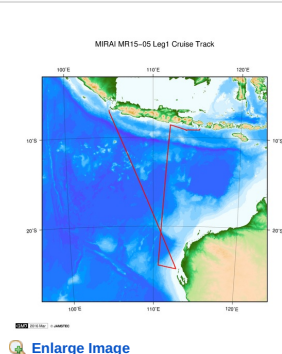
\*1 Pulse Repetition Frequency

\*2 During this cruise, the data were measured with the dual-PRF mode. Therefore, unfolding of Doppler velocity was applied automatically.

#### Need raw data?

If you would like the raw data set, please contact us from "Contact Us" above.

#### Related Information



[Enlarge Image](#)

#### MR15-05 Leg1

Ship Name: MIRAI

Period: 2015-12-23 - 2016-01-11

Chief Scientist: Katsuro Katsumata (JAMSTEC)

Project Name: [POST-WOCE Hydrography]

Proposal ▶ Research cruise on ocean decadal variability -- Indian Ocean GO-SHIP (Global Ocean Ship-based Hydrographic Investigation Program)

#### Update History

2018-01-20      An observation data was registerd.

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KAIYO

YOKOSUKA

MIRAI

KAIREI

CHIKYU

KAIMEI

SHINSEI MARU

HAKUHO MARU

#### Information of the Submersibles

KAIKO

SHINKAI 2000

SHINKAI 6500

DEEP TOW

HYPER-DOLPHIN

URASHIMA

YOKOSUKA DEEP TOW

6K Camera DEEP TOW

6K Sonar DEEP TOW

KM-ROV

POWER GRAB SAMPLER (SHELL)

POWER GRAB SAMPLER (CLOW)

BMS

#### Go to a Cruise Information

Cruise ID:

#### Go to a Dive Information

Dive ID:

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**JAMSTEC**

国立研究開発法人  
海洋研究開発機構  
JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

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SPECTRAL/ENGINEERING > RADAR REFLECTIVITY

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### Instrument

Instrument:

Doppler radar (MR14-04 Leg1 -)



### Specifications

#### Doppler radar

Manufacturer/model: Toshiba Co., Japan/ TW4419A  
Frequency: 5370MHz (C-band)  
Transmitter: Solid-state transmitter  
Pulse configuration : Using pulse-compression  
Polarimetry: Horizontal and vertical  
Peak power: 6kW(H) + 6kW(V)  
Antenna diameter: 4m  
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#### Surveillance Scan

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| Scan Interval [min] :            | 30        |
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| PRF*1 [Hz] :                     | 400       |
| Sweep integration (Pulse /Ray) : | 8 samples |
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#### Volume Scan

|                                 |                              |   |            |            |                              |            |
|---------------------------------|------------------------------|---|------------|------------|------------------------------|------------|
| Scan interval [min] :           | 6                            |   |            |            |                              |            |
| Elevations[deg] :               | 0.5                          | 1.0, 1.8, 2.6, 3.4, 4.2, 5.1, 6.2, 7.6, 9.7, 12.2, 15.2 |            |            | 18.7, 23.0, 27.9, 33.5, 40.0 |            |
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| Scan speed [deg/sec] :          | 18                           | 24  |            |            | 36                           |            |
| PRF*1[Hz]                       | dual PRF (ray alternative)*2 |   |            |            |                              |            |
|                                 | 667                          | 833   | 938        | 1250       | 1333                         | 2000       |
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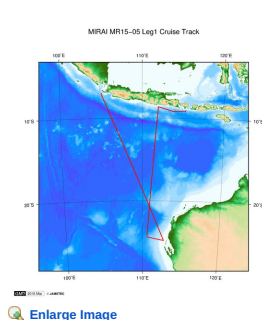
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| Update Date | Update Content                      |
|-------------|-------------------------------------|
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SAMPLER (SHELL)

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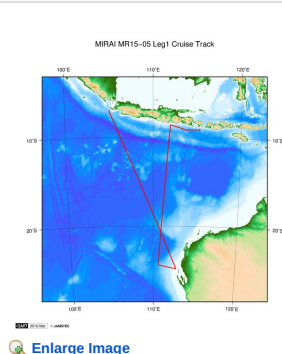
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Go

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