

## MIRAI MR18-04 Leg1 Doppler Radar

Last Modified: 2020-10-31

### ReadMe

Cruise ID: [MR18-04 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/MR18-04\\_leg1\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR18-04_leg1_all.pdf)

#### For Using Data

##### Principal Investigator

Data Management Office

##### Use Constraints

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##### 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] :           | 18         |
| PRF*1 [Hz] :                     | 400        |
| Sweep integration (Pulse /Ray) : | 16 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 |

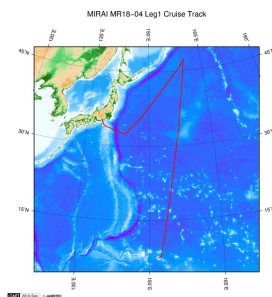
\*1 Pulse Repetition Frequency

\*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



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#### MR18-04 Leg1

Ship Name: MIRAI

Period: 2018-07-19 - 2018-08-09

Chief Scientist: Tetsuichi Fujiki (JAMSTEC)

Project Name: [Station K2, Station KEO]

Proposal The observational study to construct and to extend the "western Pacific super site network"

Title:

#### Update History

2020-10-31 An observation data was registerd.

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Cruise ID:

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Dive ID:

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国立研究開発法人  
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REFLECTIVITY

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**Principal Investigator**  
Data Management Office

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

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Instrument  
Instrument:  
Doppler radar (MR14-04 Leg1 -)



**Specifications**

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Location (from sea surface): 21m

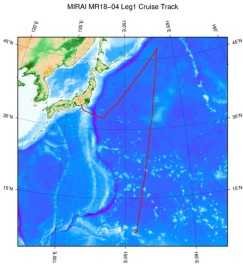
Parameter

| Surveillance Scan                |            |
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| Volume Scan                     |                              |   |            |            |                             |            |
|---------------------------------|------------------------------|---|------------|------------|-----------------------------|------------|
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MIRAI MR18-04 Leg1 Cruise Track

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**MR18-04 Leg1**

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Chief Scientist: Tetsuichi Fujiki (JAMSTEC)  
Project Name: [Station K2, Station KEO]  
Proposal The observational study to construct and to extend the "western Pacific super site network"  
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| Update History |                                     |
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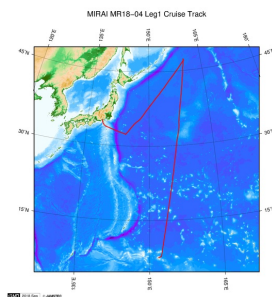
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