

## MIRAI MR17-05C Doppler Radar

Last Modified: 2019-10-01

### ReadMe

Cruise ID: [MR17-05C](#)

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/MR17-05C\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR17-05C_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.

### 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, 1.7, 2.4, 3.1, 3.8, 4.6, 5.5, 6.5, 7.6, 8.9	10.4, 12.0, 13.8 16.0, 18.3, 21.0			
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

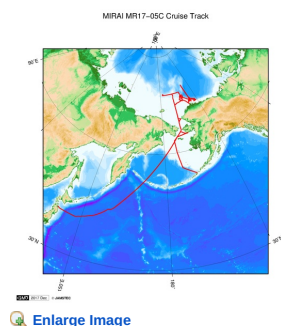
\*1 Pulse Repetition Frequency

\*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



#### MR17-05C

Ship Name: MIRAI

Period: 2017-08-24 - 2017-10-01

Chief Scientist: Shigeto Nishino (JAMSTEC)

Project Name: [Arctic Ocean Climate System Research]

Proposal ▶ Arctic Challenge for Sustainability (ArCS)

Title:

#### Update History

2019-10-01 An observation data was registered.

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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

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Dive ID:

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REFLECTIVITY

**Cruise Report**

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Data Management Office

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Instrument:

Doppler radar (MR14-04 Leg1 -)



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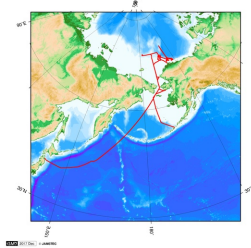
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**Related Information**

MIRAI MR17-05C Cruise Track



[Enlarge Image](#)

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Ship Name: MIRAI  
 Period: 2017-08-24 - 2017-10-01  
 Chief Scientist: Shigeto Nishino (JAMSTEC)  
 Project Name: [Arctic Ocean Climate System Research]  
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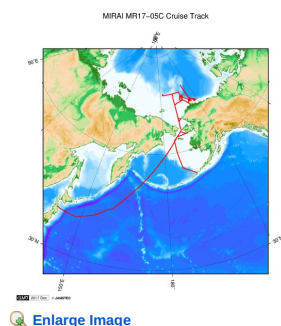
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