



R/V *Shinseimaru* Cruise Report

KS-25-J01

Sea Trial of ROV *Hyper Dolphin*

Survey Area

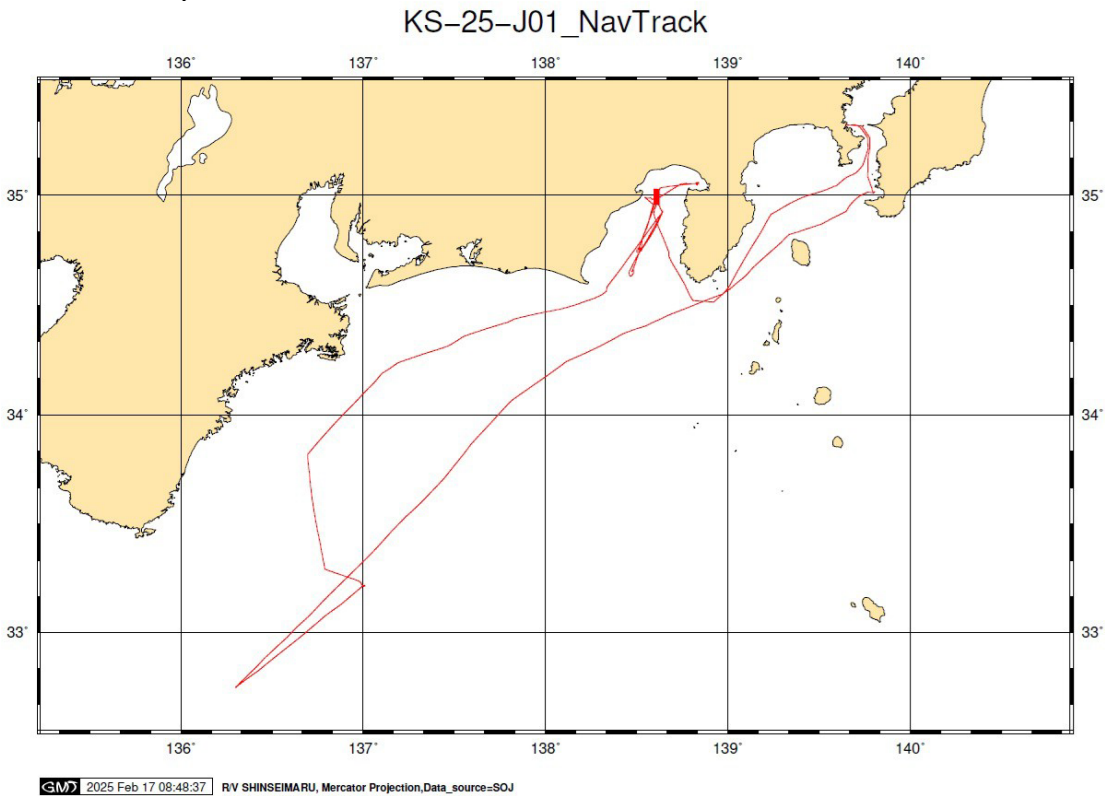
Kumano-nada and Suruga-bay

Feb.9,2025 - Feb.17, 2025

Japan Agency for Marine-Earth Science and Technology
(JAMSTEC)

1. Cruise Information

- Cruise ID: KS-25-J01
- Name of vessel: R/V *Shinseimaru*
- Title of cruise: Sea trial of ROV *Hyper-Dolphin*
- Chief Scientist: Yamamoto Fujio
- Cruise period: February 9th - February 17th, 2025
- Ports of departure/arrival: JAMSTEC Headquarter, Yokosuka / JAMSTEC Headquarter
- Research area:
 - Kumanoa-nada
[33°00.00' N, 135°30.00' E], [33°30.00' N, 137°15.00' E]
[32°30.00' N, 137°15.00' E], [32°30.00' N, 135°30.00' E]
 - Suruga-bay
[35°04'N, 138°36'E], [35°04'N, 138°44'E]
[34°35'N, 138°41'E], [34°35'N,138°31'E]
- Research map



2. Research Proposal and Science Party

- Title of proposal
 - Sea trial of ROV *Hyper-Dolphin*
- Representative of the science party [Affiliation]
YAMAMOTO FUJIO [JAMSTEC]
- Science party (*on shore)
 - Leg.1 YAMAMOTO FUJIO [JAMSTEC]
KANEKO JUNJI [JAMSTEC]
IIJIMA KOICHI [JAMSTEC]
NISHIDA SHUHEI* [JAMSTEC]

- SHINSEIMARU Crew

Captain	TSUJI AKIHISA
Chief Officer	KATO HIROYUKI
1st Officer	SHIRAYAMA TETSUO
2nd Officer	KUSUMI KEISUKE
3rd Officer	KONDO RYOMA
Chief Engineer	KUROSE WATARU
1st Engineer	MIKAMI RYUZO
2nd Engineer	INOMOTO TAKAATSU
3rd Engineer	IDOSAKA ATSUSHI
Chief Electronics Op.	INOUE YOICHI
2nd Electronics Op.	ONIKUBO RYUJI
Boat Swain	KUWAHARA YOSUKE
Able Seaman	FUJII TATSUO
Able Seaman	OKADA MASASHIGE
Able Seaman	KAWAMURA KOSEI
Able Seaman	NAKANISHI TORU
Able Seaman	KOJIMA SHINYA
Sailor	SEGUCHI KEITO
No.1 Oiler	MORI JUNJI
Oiler	SUZUKI RYOTA
Oiler	MATSUI TOSHINORI
Oiler	WATANABE SEIYA
Assistant Oiler	ONO YUTARO
Chief Steward	SUGIYAMA MASARU
Steward	KAWASE TAKESHI
Steward	SHINOHARA KOKI

- Hyper-Dolphin Operation Team

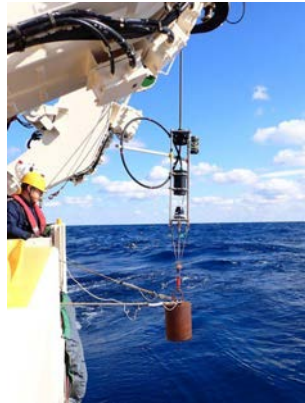
Operation Manager	KIDO TEPPEI
2nd ROV Operator	TAKENOUCHI ATSUSHI
2nd ROV Operator	SAKAKIBARA YUDAI
2nd ROV Operator	YAMAGUCHI TAIKEN
2nd ROV Operator	IWATAKUN IHIRO
2nd ROV Operator	OKITA YUKI

3. Research/Development Activities

- ROV *Hyper-Dolphin* #6 Cable free fall

Perform a free fall on the umbilical cable # 6, to be press-fit the rust preventive and measure the rotation characteristics.

A free fall was performed on the umbilical cable # 6 for 2 days, and it was confirmed that there was no abnormality in the appearance of the cable and the electrical and optical characteristics. The rotation characteristics at a cable length of 4,450m were also obtained.



(a) Free fall weight



(b) Grease apply during pay out

Fig.3.1. Cable free fall

- Sea trial of ROV *Hyper-Dolphin*

Annual sea trial of Hyper-Dolphin was conducted at water depths up to 1,550m to confirm the integrity of the equipment and system after land maintenance. Operation training using maneuvers and manipulators was also conducted. Note that sea trial at a depth of more than 4,000m could not be performed due to rough weather.

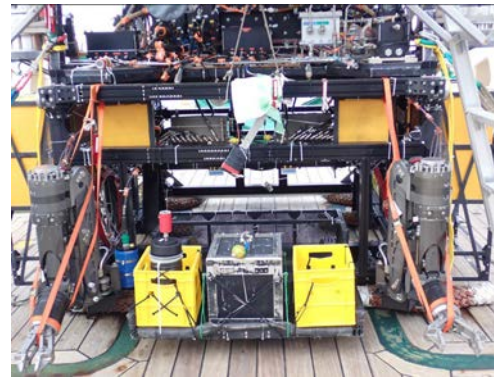


Fig.3.2. ROV *Hyper-Dolphin* (Dive#2251)

Dive #2251, sea trial was performed in the Suruga-bay (WD = 970m). Operation tests of each device and additional work of water injection and drainage function of the DONET expansion device, and also sea bottom observation and sampling were performed.

Dive #2252, sea trial and as part of training, searching a D/V *Chikyu* transponder were conducted in the Suruga-bay (WD = 1,550m). Unfortunately, it was never found around deployed site.

Dive #2253, sea trial was performed in the Suruga-bay (WD = 970m). Operation tests of each device and additional work of water injection and drainage function of the DONET expansion device, and also sea bottom observation and sampling were performed.

During all dives, manipulator operation, camera photography, vehicle operation training and acoustic positioning system test were conducted with monitoring acoustic data.

- additional work 1: Water injection and drainage function test of the DONET expansion device

Water injection and drainage function of the DONET expansion device was tested and confirmed during all dives.

- additional work 2: Observation and sampling of sunken woods field

The sunken woods field was discovered by acoustic exploration of the Shinkai 6500. This dive survey will involve sampling sunken wood, rocks, and sediments for physical and chemical analysis. The condition of the sunken wood field will also be observed by observing the seafloor and taking photographs.

4. Cruise Log

Date	Local Time	Description
2025/2/9 Sun.	08:00	Scientists party onboard a vessel
	09:00	Departed from JAMSTEC Headquarter, Yokosuka
		Transited to Kumano-nada
	10:00	Onboard lecture
	13:15	Emergency drill
2025/2/10 Mon.	10:00	Arrived at Kumano-nada
	10:48	Started to pay out #6 cable for free fall #1
	14:21	Hold with a cable length of 4,550m for 20 min.
	14:42	Started to pay in the cable
	17:11	Recovered cable
2025/2/11 Tue.	08:11	Started to pay out the cable of #6 winch for free fall #1
	09:49	Hold with a cable length of 3,200m for 20 min.
	10:09	Started to pay in the cable
	11:50	Recovered cable
		Transited to Suruga-bay
2025/2/12 Wed.	03:00	Arrived at Suruga-bay
	08:23	Deployed XBT
	15:38	Launched HPD at sea surface for test
	15:48	Recovered HPD
2025/2/13 Thu.		Maintenance day
2025/2/14 Fri.	09:09	Launched HPD, Dive #2251
	10:05	Landed sea bottom (D = 972m)
		Conducted function test, observation and sampling
	14:09	Left sea bottom (D = 976m)
2025/2/15 Sat.	14:56	Recovered HPD
	08:17	Launched HPD, Dive #2252
	09:28	Landed sea bottom (D = 1550m)
		Conducted function test and searched for <i>Chikyu</i> transponder
	11:50	Left sea bottom (D = 1552m)
2025/2/16 Sun.	13:00	Recovered HPD
	09:08	Launched HPD, Dive #2253
	10:03	Landed sea bottom (D = 970m)
		Conducted function test, observation and sampling
	12:48	Left sea bottom (D = 975m)
	13:38	Recovered HPD
2025/2/17 Mon.	13:45	Transited to Yokosuka
	09:00	Arrived at JAMSTEC Headquarter, Yokosuka

5. Notice on Using

This cruise report is a preliminary documentation as of the end of cruise.

This report is not necessarily corrected even if there is any inaccurate description (i.e. taxonomic classifications). This report is subject to be revised without notice. Some data on this report may be raw or unprocessed. If you are going to use or refer the data on this report, it is recommended to ask the Chief Scientist for latest status.

Users of information on this report are requested to submit Publication Report to JAMSTEC.

<https://www.godac.jamstec.go.jp/darwin/en/note.html#report>

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