



ROV KAIKO - Future Plan -

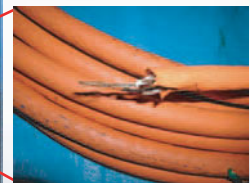
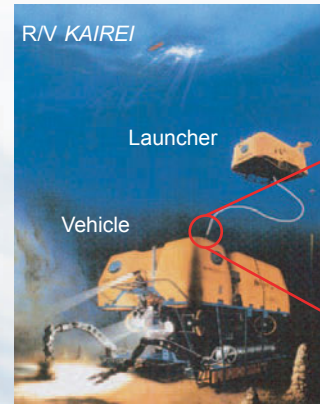
ROV *KAIKO* started on operating in 1995 in order to carry out surveys at any depths in the world ocean. On May 29, 2003, after completing the research mission on the seafloor of 296th dive, at a depth of 4675 m, in Nankai Trough, the *KAIKO* operators could not join the launcher because of the power failure of the vehicle. The secondary cable at the cable end of the vehicle was snapped and the vehicle surfaced. However, the vehicle has been missing since then. We have searched for it from sea to air until June 21, we could not find anything at all.

Investigation of the accident has been conducted by the Committee for the Investigation of Accident. After we had a lot of discussion on re-building, we, JAMSTEC, decided to propose the funding to re-build a new vehicle. Until new *KAIKO* system is reconstructed, we will temporarily use re-modeled the un-tethered ROV *UROV 7K* as a replacement of the *KAIKO* vehicle.

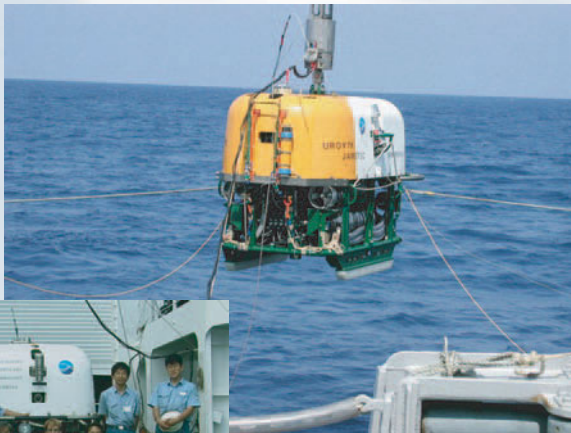
The *UROV 7K* is linked with the support vessel using a fiber optic cable as a length of 7000 m. It was developed for the missions of monitoring deep sea mooring systems and to carry out deep sea floor surveys.



KAIKO consists of two parts, launcher and vehicle. She was designed for a full-depth ocean scientific research.



Picture of the snapped secondary cable.



UROV 7K and her Development Team.

Basic specifications of *UROV7K* and re-modeled *UROV7K*

	<i>UROV 7K</i>	Re-modeling <i>UROV 7K</i> for <i>KAIKO</i> vehicle
Weight	About 2,700 kg	About 2,700 kg
Dimensions	About 2.8 (L) x 1.8 (W) x 2.0 (H) m	About 2.8 (L) x 1.8 (W) x 2.0 (H) m
Max. operating depth	About 7,000 m	About 7,000 m
Power	Lithium-Ion Rechargeable Battery 108V 60Ah	Supplied from R/V <i>KAIREI</i>
Cable	Fiber-optic cable (1mm dia.)	Fiber-optic electromechanical cable (29.5 mm dia. ϕ 250 m)
Propulsion	Horizontal thrusters (x2) Vertical thrusters (x2)	Horizontal thrusters (x4) Vertical thrusters (x4)
Equipments	Wide color TV cameras (x2) 3-CCD color TV camera Monochrome TV camera Still camera & strobe light Altitude sonar, Depth meter Ring laser gyro Obstacle avoidance sonar Acoustic transponder Manipulator	Wide color TV cameras (x2) 3-CCD color TV camera Monochrome TV camera Still camera & strobe light Altitude sonar, Depth meter Ring laser gyro Obstacle avoidance sonar Acoustic transponder Manipulator, Sample basket

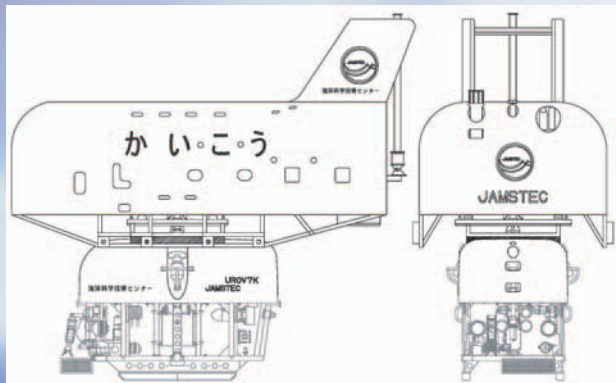


Figure of joining the re-modeled *UROV 7K* and the *KAIKO* launcher.

REFERENCES

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- [2] Watanabe, M., Tashiro, S., Hashimoto, K., Momma, H., (2003) "Lost of the 10000m class ROV "KAIKO" - Analysis of the Accident -", Advanced Marine Science and Technology Society Symposium October16-17 2003, pp.61-64 (in Japanese).
- [3] Tashiro, S., Watanabe, M., Hashimoto, K., Momma, H., (2003) "Lost of the 10000m class ROV "KAIKO" - Search for the ROV Kaiko Vehicle -", Advanced Marine Science and Technology Society Symposium October16-17 2003, pp.59-60 (in Japanese).
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FURTHER INFORMATION

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