

# Boomerang: Underwater Revolution



*A submersible disk-shaped probe, dubbed the Boomerang, glides through the ocean.  
Photo Kyushu University*



*Researchers inspect and adjust the Boomerang aboard a ship.*

Kyushu University's Research Institute for Applied Mechanics and Mitsui Engineering & Shipbuilding Co. have jointly developed the Boomerang, a disk-type underwater probe. The Boomerang is designed to freely glide back and forth in waters as a saucer might fly in the air. Researchers from Kyushu University and Nagasaki University's Faculty of Fisheries are currently conducting a series of field tests with the probe. The Boomerang probe is expected to play a major role in collecting oceanic environmental data.

Conventionally, researchers drop observation instruments from a ship or install them on a rope that fixes to a mooring buoy on the sea surface to collect oceanic environmental data. Using these conventional observation methods, only fragmental data can be obtained because observation instruments are fixed.

The researchers from Kyushu University and Mitsui Engineering & Shipbuilding have devel-

oped the Boomerang vehicle to solve the problem.

While automatically checking its position using its global positioning system (GPS), the Boomerang probe glides back and forth in the water as it traces a pre-programmed course using its built-in weight-shifting and buoyancy adjustment systems. The device uses its instruments to collect oceanic environmental data, such as on temperature and salinity levels, before rising to the surface, where it transmits this data to a research base via radio. The Boomerang probe is capable of reaching and resting on the seabed to suspend its operations temporarily to cut battery consumption.

The Boomerang measures 190 centimeters in diameter. Its maximum diving depth is 100 meters. The Boomerang excels in operability as it can change its course without moving its bow, unlike a submersible vessel, thanks to its disk-like shape.



*The Boomerang floats on the surface.*