

Cruise Summary

1. Cruise Information

- (1) **Cruise ID:** KH-21-1
- (2) **Vessel:** R/V HAKUHO MARU
- (3) **Cruise Title**
Study of formation, advection, and dissipation of Subtropical Mode Water using profiling floats equipped with dissolved oxygen and pH sensors
- (4) **Chief Scientist**
Eitarou Oka (AORI, U. Tokyo)
- (5) **Representative of the Science Party**
SHN20-1 Eitarou Oka (AORI, U. Tokyo)
- (6) **Research Titles**
SHN20-1 Study of formation, advection, and dissipation of Subtropical Mode Water using profiling floats equipped with dissolved oxygen and pH sensors
- (7) **Cruise Period**
2021/02/13 - 2021/02/25
- (8) **Ports of departure/call/arrival**
Harumi - Kagoshima
- (9) **Research Area**
Regions south of the Kuroshio and the Kuroshio Extension

2. Overview of the Observation

The main purpose of the cruise is to deploy 6 profiling floats equipped with dissolved oxygen and pH sensors and conduct CTD observations needed for correction of float data, under the Grant-in-Aid for Scientific Research on Innovative Areas "Hybrid ocean observations: ocean circulation in the Kuroshio Extension region and its influence on biogeochemical fields". We also conducted XCTD observations of Subtropical Mode Water forming in the late winter of 2021, continuous observation of precipitable water using microwave radiometer, cloud camera, GNSS, and GPS radiozonde, observations of greenhouse gas fluxes at the sea surface, and observation of radioactive cesium.