

Cruise Summary

1. Cruise Information

- (1) **Cruise ID:** KS-19-22
- (2) **Vessel:** R/V SHINSEI MARU
- (3) **Cruise Title**
Interaction between TWC front and internal gravity waves in the central Japan Sea: Observations of turbulent mixing and primary production
- (4) **Chief Scientist**
Yusuke Kawaguchi (AORI)
- (5) **Representative of the Science Party**
SH19-16 Yusuke Kawaguchi (AORI)
- (6) **Research Titles**
SH19-16 Interaction between TWC front and internal gravity waves in the central Japan Sea: Observations of turbulent mixing and primary production
- (7) **Cruise Period**
2019/10/25 - 2019/10/31
- (8) **Ports of departure/call/arrival**
Fushiki-Toyama - Niigata
- (9) **Research Area**
Central part of Japan Sea: off Sado Island and Noto Peninsula

2. Overview of the Observation

During the scientific cruise, KS19-22, with the Shinsei-maru of AORI/JAMSTEC, we investigated oceanographic features in the central Japan Sea, with special focuses on regions off Sado Island and off Noto Peninsula. In this expedition, a series of instruments such as CTD, ADCP, VMP and drifting buoys are utilized, respectively measuring temperature/salinity/oxygen, multidepth water current, turbulent diffusivity, and single depth water movement. Mostly, the activities went well as in the original schedule. As scientific targets, we focused on paired mesoscalar vortices that existed between regions off the Noto and off the Sado Island, where its physical characters such as spatial structure and water mass properties were closely examined. At the fixed station named FATO, which is located north of the

Sado Island, a repetitive profiling of VMP was performed, and then retrieved the reliable reference of turbulent parameters at the site.