

Cruise Summary

1. Cruise Information

- (1) **Cruise ID:** KS-20-13
- (2) **Vessel:** R/V SHINSEI MARU
- (3) **Cruise Title**
Dynamics of plastic debris in the ocean
- (4) **Chief Scientist**
Atsushi Tsuda (AORI)
- (5) **Representative of the Science Party**
S20-32 Atsushi Tsuda (AORI)
- (6) **Research Titles**
S20-32 Dynamics of plastic debris in the ocean
- (7) **Cruise Period**
2020/08/23 - 2020/09/03
- (8) **Ports of departure/call/arrival**
Hakodate - Yokosuka
- (9) **Research Area**
Western Sea of Japan

2. Overview of the Observation

This cruise is based on co-operation by 5 laboratories belonging to the "University of Tokyo-FSI-Nippon Foundation Research Project on Marine Plastic". In the project, we focused on the dynamics of marine plastic waste, especially the dynamics of microscopic plastic particles of 1 mm or less, which are usually not measured, and in this cruise, we conducted a survey in the Sea of Japan which is regarded as a mini Ocean. The boarding researchers are roughly divided into three groups: physics group, chemical biology group, and OMNI group. The sea area is the Noto offshore line, the Yamaguchi offshore line, and the sea area around Tsushima. Especially in the waters around Tsushima, plastic particles were collected from the sea surface to the sea bottom by neuston net, Niskin sampling, and multiple-core sampling. In addition, large plastic waste were quantified visually during the cruise. Although two typhoons occurred during this period, almost all observations have

completed with the proper judgment of the captain. Although the analysis of the sample will be done after disembarkation, when this analysis is completed, the size distribution of the marine plastic particles from 10 μm to 1 m and its vertical distribution will be clarified, which will lead to the verification and sophistication of the model prediction. The life cycle of marine plastic particles can be clarified. At the beginning of this voyage, a reporter from NHK was scheduled to board the ship, but after that, the shooting was switched to another ship in the waters around Tsushima, and many video materials were left. Finally, we would like to thank Captain Shishikura and his crew for supporting the observations, as well as the staff members of the JAMSTEC who were in charge of cruise management and coronavirus PCR testing.