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RESEARCH ON NAVIGATION SUPPORT SYSTEM FOR THE ARCTIC SEA ROUTES

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The recent retreat of summer sea ice in the Arctic Ocean is one of the most significant environmental issues. On the other hand, it also increases the possibility of commercial use of the Arctic Ocean as new shipping routes. Upon such circumstances, the Ministry of Education, Culture, Sports, Science and Technology, Japan commenced comprehensive 5-year research program on the Arctic climate system and its global influence since the fiscal year 2011. The program contains 9 research projects including a study on the sea ice prediction and construction of an ice navigation system. This study covers ice prediction, ice monitoring, route optimization, ship-ice interaction, ship icing, navigation scenario and economic evaluation. This presentation gives the most recent results from this project as well as recent topics from the shipping industries in Japan.

