

Paleoceanographic reconstruction using siliceous microfossils from the Atlantic sector of the Southern Ocean

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Abundant siliceous microfossils such as diatoms are often found from the Neogene-Quaternary sediments in the Southern Ocean, therefore, the fossil diatoms give us important information of environmental changes in the past. However, paleoceanographic studies based on diatom analysis that focus on the long-term paleoenvironmental changes are very rare, whereas most studies have dealt with the Last Glacial Maximum and Holocene environments. Furthermore, the other siliceous microfossils such as diatom *Chaetoceros* resting spores and chrysophyte cysts seem to be useful paleoenvironmental indicators to reconstruct changes in the upwelling system and to assess the influence of freshwater to the Southern Ocean.

In this study, the changes in the microfossil assemblages of 'normal' diatoms, *Chaetoceros* resting spores and chrysophyte cysts are investigated in order to estimate a long-term trend of paleoceanographic changes (e.g., changes in sea-ice distribution, and location and strength of upwelling and the Antarctic Circumpolar Current system) around the Southern Ocean. In the current presentation, we would like to present and discuss on the paleontological data derived from the ODP Site 689 and DSDP Site 513 materials (Atlantic sector of the Southern Ocean).

Keywords: the Southern Ocean, diatom, resting spore, chrysophyte cysts, ODP, DSDP