



IV ROSS SEA CONFERENCE 2023

Università degli Studi di Napoli "Parthenope"

Via Amm. F. Acton, 38 - 80133 Napoli, ITALY

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PHYSICAL OCEANOGRAPHY

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ABSTRACT Subject :

Ocean currents and sea ice drift observations in the Ross Sea (Antarctica)

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In January 2020, eleven SVP (Surface Velocity Program) drifters were deployed in the Ross Sea near the northeastern edge of the Ross Ice Shelf as part of the MORSea (Marine Observatory in the Ross Sea) project. This is the first dedicated experiment to deploy Lagrangian drifters in the interior of the Ross Sea. These drifters measured the currents and surface temperatures of the ocean for about a month before being affected by sea ice formation in early March 2020. Some of them survived the ice formation, were trapped by the ice, and were transported for several months. The few but valuable and unique data provided by these drifters offer the chance to analyse two different scenarios: an "oceanic" scenario, describing the late summer ocean conditions of the surface layer of the eastern Ross Sea (current strength, temperature, high frequency ocean signals, absolute dispersion); an "ice" scenario, capturing the exact time when the drifters came into contact with the ice (using SAR images), and comparing the satellite ice drift with the velocities measured by the drifters when embedded in the ice.

