



## **Comparing the geochemical composition of dust recorded in the two EPICA ice cores (EDC & EDML) during glacial periods.**

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The major element geochemical composition of dust deposited at the two EPICA sites (Dome C, located in the inner East Antarctic Plateau, and Dronning Maud Land, located in the Atlantic sector of the Southern Ocean) during the three cold periods of the last 200 kyr (LGM, MIS4 and MIS6) is presented for the first time.

The similar geochemical signature during cold stages and the close similarity with the composition of Southern South American sediments, indicate a common dominant source for dust reaching the two Antarctic areas. Moreover, the low compositional variability of dust samples within each cold period with respect to interglacial data, reveals steady environmental regimes at the dominant dust source under glacial conditions.

However, small compositional differences among different cold periods suggest that the dust source could have responded differently in terms of dust production and availability during successive glacial periods along the last two glacial-interglacial cycles.

Conversely, geochemical data and model studies indicate that during interglacials an Australian source could have played an important role as dust supplier, at least for

Dome C, and that the two sites could have been influenced by distinct transport modes. Preliminary results of the geochemical composition of dust deposited at Talos Dome are also presented and compared with the composition of the dust deposited at the two EPICA sites.