Geophysical Research Abstracts,
Vol. 11, EGU2009-5435, 2009
EGU General Assembly 2009

Talos Dome timescale synchronisation with EDC3 for the last Glacial-Interglacial cycle via volcanic signatures matching.

M. Severi, S Becagli, E. Castellano, D. Manganelli, A. Morganti, R. Traversi, and R. Udisti
Univ. Firenze, Dep. Chemistry, Sesto Fiorentino, Italy (mirko.severi@unifi.it, +39 055 4573287)

In the framework of the TALDICE project (TALos Dome Ice CorE), a deep ice core has been drilled on a peripheral dome of East Antarctica. The perforation at Talos Dome (159°11' E 72°49'S 2315 m a.s.l.) reached a depth of 1620 m during the 2007-2008 austral summer, covering a period of about 250 kyr. A reliable high-resolution synchronisation of the TD volcanic stratigraphy with the well dated EPICA DC one is a basic tool for the construction of a reliable timescale and will be a powerful tool to discover whether related climatic events in different sectors of the Antarctic continent occurred at the same time or if there was an offset for the same event in different sites. In this optic, a FIC (Fast Ion Chromatography) system (coupled to a CFA – Continuous Flow Analysis setup) was used to reconstruct the paleo-volcanic record at this site as was already done for the two EPICA cores with very high resolution (ranging from less than 1 to about 3.5 cm per sample).
Here we report the results of the synchronisation between the TD and the EDC ice-cores via individuation of synchronous volcanic events for the last glacial-interglacial cycle.
Several isochronous volcanic events were identified by the comparison of the volcanic stratigraphies and these signatures will be an helpful tool in doing a fine-tuning of the pure glaciological model of the TD timescale.