Geophysical Research Abstracts, Vol. 8, 00472, 2006
SRef-ID: 1607-7962/gra/EGU06-A-00472

Texture evolution along the EPICA Dome Concordia ice core

G. Durand (1), A. Svensson (1), S, Kipfstuhl (2), J. Sjolte (1), M. Montagnat (3)

(1) Niels Bohr Institute, University of Copenhagen, Denmark, (2) Alfred Wegener Institut, Bremerhaven, Germany, (3) Laboratoire de Glaciologie et de Géophysique de l'environnement, Grenoble, France (gd@gfy.ku.dk)

Fabric (distribution of the c-axes orientation) and microstructural (size and shape of grains) parameters along the EPICA Dome Concordia ice core have just been measured down to 3000 m with a sampling resolution of 11 m. These new concomitant measurements allow to define more rigorous parameters to describe the polycrystal. Such a study could be particularly highlighting as the textures are witnesses of the deformation experienced by the corresponding ice layer.

The grain size measurements are in agreement with the ones previously made. The c-axis orientation fabrics gradually change with depth from a random orientation pattern near the surface to a strong vertical maximum in deeper ice. Such an evolution is characteristic of vertically uniaxial compression, typical deformation process attempt for a dome. After a presentation of the whole profiles, our discussion will more particularly focus on the stage 11 and 15 where dating problems have been pointed out.