



## First isotopic organic geochemical data of the Dolni Vestonice (Czech Republic) loess sequence: evidence of Westerlies influence all along the last climate cycle

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Within the ANR-ACTES project, isotopic organic geochemistry ( $\delta^{13}\text{C}_{\text{org}}$ ) study has been performed in the Dolni Vestonice loess-paleosol sequence in Czech Republic in parallel with other proxy studies like grain size, pedology, environmental magnetism and magnetic anisotropy, stratigraphy... The studied record covers the last climate cycle and the present Holocene with a high sedimentation of about 20 meters.

The Czech sequence provides a high temporal resolution isotopic record that characterizes paleoclimate rapid events of the Upper Pleistocene in Central Europe. Furthermore, it shows that, thanks to the specific sedimentation conditions (high accumulation, cold and arid environmental conditions) and if adequate chemical treatment is applied to sediment, typical loess  $\delta^{13}\text{C}_{\text{org}}$  nicely reflects the original vegetation isotopic composition. Conversely paleosol  $\delta^{13}\text{C}_{\text{org}}$  can only be interpreted in terms of qualitative paleoenvironmental variations because of pedogenesis impact on the original vegetation isotopic signature.

Organic geochemistry investigation allows also the characterization in terms of environmental parameters (e.g. mean annual precipitation and precipitation annual distribution) of short events recorded concomitantly by all investigated proxies.

We present the first organic and isotopic geochemical record of this loess sequence that, in association to the OSL and  $^{14}\text{C}$  dating based chronology, we interpret in terms of past climatic changes. The determined climatic evolution in Central Europe is then compared with other climate records determined in European loess sequences at different latitudes.