



## **Sedimentological dynamics of the Orlovat loess-paleosol sequence (Northern Serbia) show both local and regional paleoenvironmental fluctuations**

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The last glacial cycle as recorded in the Orlovat loess section (Northern Serbia) gives insight into both local and regional paleoenvironmental conditions. The Orlovat section is a unique section in the Carpathian Basin and it is characterized by irregularities in sedimentology, magnetic susceptibility, geochemistry and other paleoproxies. Therefore the local conditions need to be understood before making claims on a regional scale. Especially the grain size distribution indicates that the Orlovat site was influenced by specific paleoenvironmental conditions. Relatively coarse grained sand was delivered during interglacials, probably from the Deliblato sands by the Košava wind. However, commonly applied methods such as grain size and rock magnetic investigations could not explain the unique situation during the MIS 3, where a paleosol is missing. Therefore, for the first time in the studies of the region, we applied high resolution X-ray fluorescence analysis to trace the changing source areas of sediment material during the Last Glacial. These changes in the provenance of the sediment might be associated with stronger river activities and erosion. This study highlights the importance of a sedimentological understanding for a reliable paleoenvironmental evaluation.