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Combined rock-magnetic and colorimetric stratigraphy for a 430 ka-covering loess-palaeosol sequence in the vicinity of Belgrade, Northern Serbia

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Quaternary palaeoenvironmental recorders are particularly in the Northern Hemisphere provided by loess-palaeosol sequences (LPSs). In the Middle Danube basin, these terrestrial archives cover the last million years (Markovic et al., 2015) of the climate history as well as archaeological horizons from occupations by early humans. The Zemun loess site (ZLS, located in the Vojvodina, Northern Serbia) was declared as a protected site, based on artefacts of previous settlements found on the river bench. For providing a stratigraphy for this site and to set the archaeological findings into an environmental and temporal context, the ZLS was investigated by means of environmental magnetic and colorimetric properties. This requires not only to creation of a stratigraphy to be compared to already investigated sites of northern Serbia, but also provides independent age control, carried out by tephrochronology. Therefore, the ZLS contains two important chronological anchor-points, namely the L2-tephra (correlated to Vico Ignimbrite B and dated to 160.6 ± 4 ka, (Mannella et al., 2019)) and the Bag-Tephra (correlated to the Villa Senni eruption and dated to 351-357 ka (Fu et al., 2019)). This tephrochronological timeframe, in combination with the colorimetric and environmental magnetic parameters, witnesses an accumulation of mineral dust, providing insights from glacial to interglacial conditions ranging from marine oxygen isotope stage (MIS) 11 to MIS 4.

References

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