



Deciphering Late-Pleistocene landscape evolution: linking proxies by combining pedo-stratigraphy and luminescence dating

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Interpreting former landscape evolution asks for understanding the processes that sculpt such landforms by means of deciphering complex systems. For reconstructing terrestrial Quaternary environments based on loess archives this might be considered, at least, as a three step process: (1) Identifying valuable records in appropriate morphological positions in a previously defined research area, (2) analysing the profiles by field work and laboratory methods and finally (3) linking the previously considered pseudo-isolated systems to set up a comprehensive picture. Especially the first and the last step might bring some pitfalls, as it is tempting to specify single records as pseudo-isolated, closed systems. They might be, with regard to their preservation in their specific morphological position, but in fact they are part of a complex, open system.

Between 2008 and 2013, Late-Pleistocene loess archives in Saxony have been intensively investigated by field and laboratory methods. Linking pedo- and luminescence dating based chronostratigraphies, a composite profile for the entire Saxonian Loess Region has been established. With this, at least, two-fold approach we tried to avoid misinterpretations that might appear when focussing on one standard profile in an open morphological system. Our contribution focuses on this multi-proxy approach to decipher the Late-Pleistocene landscape evolution in the Saxonian Loess Region. Highlighting the challenges and advantages of combining different methods, we believe that (1) this multi-proxy approach is without alternative, (2) the combination of different profiles may simplify the more complex reality, but it may be a useful generalisation to understand and reveal the stratigraphical significance of the landscape evolution in this region.