A European loess stack and its timing (in progress) in the context of human evolution

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Stacking of paleoclimate and paleoenvironmental data in a stratigraphic framework is a valuable approach for eliminating noise in individual records and extracting a shared pattern. At the same time, stacking may smooth out local differences and features, especially when datasets have a different temporal resolution. Creating a common time scale is prerequisite, although it may not need to be correct in detail (Lisiecki and Raymo, 2005).

For the marine realm (e.g. Karner et al., 2002; Lisiecki and Raymo, 2005) and Asian loess proxies (e.g. Ding et al., 2002; Sun et al., 2006) stacked composite records of paleoclimate evolution exist. These stacks have been very valuable as long, continuous and representative reference datasets. Yet, loess data from continental Europe have been compared only in a qualitative manner (Marković et al., 2015 and references therein).

We aim at placing available magnetic susceptibility data from European loess sites (situated in South-Eastern Europe) on a common stratigraphic age scale and develop a European Loess stack, initially for the past ~500,000 years. In this contribution, we discuss the timescale for the European loess deposits, present results of stacking several datasets, and place this stack in the context of human cultural evolution.

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