

OSL vs. U/Th datations of terraces in the Hochrhein area (N. Switzerland, SW. Germany).

Kock Stéphane*, Preusser Frank**, Kramers Jan** & Wetzel Andreas*.

*Geological and Palaeontological Institut, Department of Environmental Sciences, University of Basel, Switzerland

**Geological Institute, Department of Earth Sciences, University of Bern, Switzerland

Two independent methods (OSL and U/Th) are used to date outcrops of gravel terraces of the Rhine river belonging to the "Niederterrasse" in the area between the junction of the Aare river and the city of Basel. The OSL samples were taken from homogenous sand lenses at different depths below the terrace surface, whereas samples of stalactitic carbonate crusts on pebbles from the same outcrops were used for U/Th datations. Speleothems from a cave directly connected with the terrace were also dated. In general, the two methods gave similar results with ages between 14 and 30 Ka, thus confirming the expected ages. However, some U/Th samples yielded a much older age. This difference is interpreted as a loss of uranium within the sample. This study shows that U/Th could be a suitable method for investigations in Quaternary terraces under cold to temperate climate, where other methods are not applicable.