



Magnetostratigraphy and rock magnetism of continental sediments from central Asia: insights into tectonic exhumation and erosion

S. Gilder (1), Y. Chen (2), J. Charreau (2)

(1) Ludwig Maximilians University, Department of Earth and Environmental Sciences, Munich, Germany, gilder@lmu.de; (2) Institut des Sciences de la Terre d'Orléans; Orléans, France; Yan.Chen@univ-orleans.fr, Julien.Charreau@univ-orleans.fr

We carried out five detailed magnetostratigraphic and rock magnetic studies in 2 to 3 kilometer-thick continuous sections of continental sediments in central Asia. Sedimentation rates were established from magnetostratigraphy, while rock magnetic profiling helped to define changes in the source material or in the hydrodynamic regime acting during sedimentation. In particular, characterizing the temporal evolution in rock magnetic parameters via anhysteretic remanent magnetization and the anisotropy of magnetic susceptibility have proven invaluable to our work. They also help significantly in correlating the magnetostratigraphic column with the reference polarity time scale. Our presentation will focus on how rock magnetic profiling assists in the pattern matching process inherent in magnetostratigraphy, and how we interpret changes in the various parameters, including sedimentation rate, to glean information related to the exhumation and erosion of the nearby mountains.