1145-35-654 **Manuel Friedrich***, manuel.friedrich@uni-muenster.de, and **Martin Kruzik**. *Derivation of von Karman plate theory in the framework of three-dimensional viscoelasticity.* Preliminary report.

We apply a quasistatic nonlinear model for nonsimple viscoelastic materials at a finite-strain setting in the Kelvin's-Voigt's rheology to derive a viscoelastic plate model of von Karman type. We start from solutions to a model of three-dimensional viscoelasticity where the viscosity stress tensor complies with the principle of timecontinuous frame-indifference. Combining the derivation of nonlinear plate theory by Friesecke, James and Mueller, and the abstract theory of gradient flows in metric spaces by Sandier and Serfaty we perform a dimension-reduction from 3D to 2D and identify weak solutions of viscoelastic form of von Karman plates. (Received September 12, 2018)