1147-32-380 **Helge Ruddat*** (helge.ruddat@uni-hamburg.de), Universität Hamburg, Fachbereich Mathematik Bereich AD, Bundesstraße 55 (Geomatikum), 20146 Hamburg, Germany. *From tropical 1-cycles to period integrals and analyticity of smoothings.*

If X is a Calabi-Yau or Fano n-fold with an SYZ map to an affine base B, e.g. coming from a toric degeneration, then we define a homology theory for tropical 1-cycles in B and a map from this homology to ordinary n-cycles in X. Integrating the holomorphic volume form over these n-cycles gives holomorphic functions that can be computed explicitly from a natural pairing of tropical cycles. These integrals turn out to be monomials in the base parameters of a smoothing of the type given by Gross-Siebert and Gross-Hacking-Siebert. We explain how this can be used to show that these smoothings are analytic families which is joint work with Bernd Siebert. (Received January 22, 2019)