1157-35-238 **Sarah Biesenbach*** (biesenbach@eddy.rwth-aachen.de). *Optimal convergence rates for the Cahn-Hilliard equation on the real line.*

We explain how to derive optimal algebraic-in-time relaxation rates to a "bump" for the Cahn-Hilliard equation on the line under the condition that the initial condition has a finite L^1-distance to the bump. The result extends the relaxation method developed previously by the second and the third author for a single transition layer (the "kink") to the case of two transition layers (the "bump"); as in the previous work, the method exploits the gradient flow structure, Nash-type inequalities, duality arguments, and Schauder estimates. For both the kink and the bump, the energy gap is translation invariant and its decay alone cannot specify to which member of the family of minimizers the solution converges. Whereas in the case of the kink, the conserved quantity singles out the longtime limit, in the case of a bump, a new argument is needed. This is joint work in progress with Felix Otto and Maria G. Westdickenberg. (Received January 30, 2020)