1041-78-58 **J. Nathan Kutz*** (kutz@amath.washington.edu), Department of Applied Mathematics, University of Washington, Box 352420, Seattle, WA 98195-2420, and **Brandon G. Bale** (bbale@amath.washington.edu), Department of Applied Mathematics, University of Washington, Box 352420, Seattle, WA 98195-2420. *The Zero-Dispersion Similariton.*

A theoretical model shows that in the context of the universal Ginzburg-Landau equation with rapidly-varying, mean-zero dispersion, stable and attracting self-similar pulses are formed with parabolic profiles: the zero-dispersion similariton. The zero-dispersion similariton is the final solution state of the system, not a long-time, intermediate asymptotic behavior. An averaging analysis shows the self-similarity to be governed by a nonlinear diffusion equation with a rapidly-varying, mean-zero diffusion coefficient. The alternating sign of the diffusion coefficient, which is driven by the dispersion fluctuations, is critical to supporting the zero-dispersion similariton which is, to leading-order, of the Barenblatt form. This is the first analytic model proposing a mechanism for generating physically realizable temporal parabolic pulses in the Ginzburg-Landau model. (Received July 31, 2008)