

1106-18-1075

Brian J. Paljug* (brian.paljug@temple.edu) and **Vasily A. Dolgushev** (vasily.dolgushev@temple.edu). *The Grothendieck-Teichmuller group, homotopy algebras, and formality morphisms.*

The Grothendieck-Teichmuller group GRT is a mysterious mathematical object with deep and surprising connections to mathematical physics, number theory, deformation quantization, and more. GRT acts simply transitively on the set of homotopy classes of formality morphisms, L_∞ morphisms that are the key ingredient in Kontsevich's deformation quantization of Poisson manifolds. In fact, GRT may act on formality morphisms in several ways, and so it is natural to ask if these actions coincide. After defining GRT using the operad of parenthesized braids and reviewing formality morphisms, we will discuss the various ways that GRT acts on these morphisms, and give an idea of why these actions agree. This is joint work with Vasily Dolgushev. (Received September 10, 2014)