1053-55-316      **Jonathan A Scott\*** (`j.a.scott3@csuohio.edu`), Cleveland State University, Department of Mathematics, 2121 Euclid Ave, RT 1515, Cleveland, OH 44115-2214, and **Kathryn Hess**. *Twisting cochains and morphisms up to strong homotopy.*

Classically, a strongly homotopy-multiplicative morphism of differential graded algebras is equivalent to a twisting cochain from the bar construction on the domain, into the target. The purpose of this talk is to show how this phenomenon works on the level of operads. Namely, a twisting cochain from a cooperad to an operad determines a "construction" in the sense of Brown. We show that there is a natural co-ring structure on this construction, that allows us to parametrize a "type" of morphism in the same way that an operad parametrizes a "type" of algebra. One particular construction, the Koszul resolution, leads to morphisms up to strong homotopy.

This is joint work with K. Hess (EPFL). (Received September 08, 2009)

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