1042-57-147 **G. Civan**, **J. Etnyre**, **P. Koprowski** and **J. Sabloff*** (jsabloff@haverford.edu), Department of Mathematics, 370 Lancaster Ave., Haverford, PA 19041, and **A. Walker**. *Product Structures for Legendrian Contact Homology.* Preliminary report.

Legendrian contact homology (LCH) is a powerful non-classical invariant of Legendrian knots that takes the form of an associative differential graded algebra. Linearization makes the LCH computationally tractable at the expense of discarding nonlinear (and noncommutative) information. To recover some of the nonlinear information while preserving computability, we introduce invariant cup and Massey products — and, more generally, an A_∞ structure — on the linearized LCH. There are infinite families of examples that show that these new product structures are nontrivial invariants. We also reinterpret the duality theorem of the fourth author in terms of the cup product. (Received August 17, 2008)