

1096-55-1859

**Ayman Mohammad Almomany\*** (almom1am@cmich.edu), Department of Mathematics,  
Central Michigan University, Mount Pleasant, MI 48859, and **Brad Safnuk**. *Intersection numbers  
on moduli spaces of curves through topological recursion.*

This paper explores the relationships between the plane algebraic curve and intersection numbers of tautological classes on moduli spaces of curves. The link is provided by Eynard and Orantin's theory of topological recursion, which associates to any plane algebraic curve an infinite family of invariants. Due to work of Eynard, these invariants are closely related to intersection numbers on moduli spaces of curves, and in the present work we make the calculations explicit. Of particular interest is that we find an analogue of the so-called ELSV formula, which relates Hurwitz number to linear Hodge integrals, and has been an important source for many ground breaking results (Received September 16, 2013)