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## **Products and cohomologies of differential forms on symplectic manifolds**

We will introduce and motivate a new product for differential forms on symplectic manifolds. This product is novel in that it involves derivatives and is also non-associative. In fact, the product leads to an  $A_\infty$  algebra structure for differential forms and gives cohomologies a ring structure. The product acting on cohomologies provides a new invariant for distinguishing symplectic manifolds. This talk is based on a joint work with Chung-Jun Tsai and Shing-Tung Yau.