

The rational string coproduct and the Hodge decomposition

Takahito Naito

The string coproduct is a coproduct on the relative homology of free loop spaces of closed oriented manifolds. This coproduct was introduced by Sullivan in string topology and it is given by cutting of loops at the self intersection points. In this talk, we observe a behavior of the rational string coproduct in terms of the Hodge decomposition of the relative homology. Especially, we study the degree of the coproduct of pure manifolds in the decomposition by Sullivan models in rational homotopy theory.