

1116-16-2091 **Xinli Xiao*** (xiaoxinlixl@gmail.com), 1600 Hillcrest Dr. Apt. 7, Manhattan, KS 66502. *The double of representations of Cohomological Hall algebras.*

Cohomological Hall algebra (COHA for short) for quivers was introduced by Kontsevich and Soibelman in the study of Motivic Donaldson-Thomas invariants and many other related topics. The definition of COHA is similar to the definition of conventional Hall algebra. By analogy with conventional Hall algebra of a quiver, which gives a quantization of the "positive" part of the corresponding Lie algebra, we studied the double of a certain type of COHA. First a series of geometric representations of COHA are constructed using an approach similar to the Nakajima's construction of infinite Heisenberg algebras. Then the double of the representations of COHA is constructed. From these representations, the double of COHA is discussed. (Received September 21, 2015)