报告题目：Motivic multiple zeta values of level two

报告时间：12月26日10:15-11:15 地点：401报告厅

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主持人：谢兵永

报告摘要：Multiple zeta values (MZVs) are defined by convergent series

$$\zeta(n_1, n_2, \ldots, n_r) = \sum_{0 < k_1 < k_2 < \cdots < k_r} \frac{1}{k_1^{n_1} k_2^{n_2} \cdots k_r^{n_r}}, n_1, \ldots, n_{r-1} > 0, n_r > 1.$$ 

The theory about MZVs plays an important role in the theories of mixed Tate motives, Feynman diagram, knot theory, etc.

In (Kaneko, Tasaka, 2014), Kaneko and Tasaka studied the sum odd version double zeta values (the convergent series are summations over odd numbers). They found an interesting connection between sum odd double zeta values and cusp forms of $\Gamma_0(2)$. Furthermore, they proposed some conjectures about the relation between sum odd double zeta values and classical multiple zeta values.

In this talk I will define motivic multiple zeta values of level two. I will show how to get a short exact sequence which involves motivic sum odd double zeta values and period polynomials for $\Gamma_0(2)$ by using the theory of mixed Tate motives. A basis for motivic double zeta values and a basis for motivic triple zeta values will be given. As an application of the main results, I will prove parts of Kaneko and Tasaka’s conjectures.