BEILINSON-BLOCH CONJECTURE AND ARITHMETIC INNER PRODUCT FORMULA

Speaker: Yifeng Liu
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Time：Tue, Jul. 28th, 16:30-17:30
Venue: Room 408, SCMS

Abstract: In this talk, we study the Chow group of the motive associated to a tempered global L-packet \pi of unitary groups of even rank with respect to a CM extension, whose global root number is -1. We show that, under some restrictions on the ramification of \pi, if the central derivative L'(1/2,\pi) is nonvanishing, then the \pi-nearly isotypic localization of the Chow group of a certain unitary Shimura variety over its reflex field does not vanish. This proves part of the Beilinson--Bloch conjecture for Chow groups and L-functions. Moreover, assuming the modularity of Kudla's generating functions of special cycles, we explicitly construct elements in a certain \pi-nearly isotypic subspace of the Chow group by arithmetic theta lifting, and compute their heights in terms of the central derivative L'(1/2,\pi) and local doubling zeta integrals. This is a joint work with Chao Li.