Speaker: Kohei Kikuta (Chuo University)

Title: Spherical twists and the center of autoequivalence groups of K3 surfaces

Time: May 31 (Tu.), 1:30-2:30pm (Beijing time)

Venue: Zoom Meeting 984 962 1397 (no password required)

Abstract: Homological mirror symmetry predicts that there is a relation between autoequivalence groups of derived categories of coherent sheaves on Calabi-Yau varieties, and the symplectic mapping class groups of symplectic manifolds. In this talk, as an analogue of Dehn twists for mapping class groups of closed oriented real surfaces, we consider spherical twists for derived categories of algebraic varieties. We introduce the intersection number and relate it to group-theoretic properties of spherical twists. As an application, we can compute the center of autoequivalence groups of derived categories of K3 surfaces. This talk is partly based on a joint work with F. Barbacovi (UCL).