CASTS TALKS

CASTS Algebraic Geometry Summer Program

Equivalence criteria for Fourier-Mukai transforms

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10:00 - 11:00
103, Mathematics Research Center Building (ori. New Math. Bldg.)

   In this talk, we will introduce several criteria to determine when a Fourier-Mukai transform between the derived categories of two smooth projective varieties is an equivalence. Consider a given Fourier-Mukai transform. First, we will give a criterion that this Fourier-Mukai transform is fully faithful. Next, we give some criteria that this Fourier-Mukai transform is an equivalence. Lastly, if the time permitted, considering the canonical cover of the smooth projective varieties, we will prove that the equivalence of the derived categories of two smooth projective varieties lifts to the equivalence of derived categories of two canonical covers.