

Toshitake Kohno (University of Tokyo)

Title: Hyperbolic volumes, configuration spaces and iterated integrals.

Abstract: Using ideas due to Aomoto, we express the volume of a simplex in spherical or hyperbolic space by means of iterated integrals of logarithmic forms on the configuration spaces. We show that the volume functions satisfy the differential equations arising from nilpotent connections and describe asymptotic behavior of such functions.