

Math Physics Seminar - Alexander Voronov, University of Minnesota, Zoom

Wednesday, Jan 29th 3:30 - 4:30pm

Title: Schwarz's extended super Mumford form on the super Sato Grassmannian

Abstract: In 1987, Albert Schwarz suggested a formula which extends the super Mumford form from the supermoduli space of super Riemann surfaces into the super Sato Grassmannian. His formula is a remarkably simple combination of super tau functions. The super Mumford form on the supermoduli space is believed to be the main ingredient in computing the superstring partition function and scattering amplitudes. The supermoduli space is known to sit in the super Sato Grassmannian as an orbit of the Neveu-Schwarz (NS) algebra. I will introduce these notions and present a formula for the action of the NS-algebra on super tau functions and show that Schwarz's extended Mumford form is invariant under the NS action, which strengthens Schwarz's proposal that a locus within the Grassmannian can serve as a universal moduli space with applications to superstring theory. This is a joint work with Katherine A. Maxwell, <https://arxiv.org/abs/2412.18585>.

<https://purdue-edu.zoom.us/j/96866316913?pwd=Pux4eSatkMR1bka1mACMbaiWclbrqC.1>

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