

Speaker: Danylo RADCHENKO (Max Planck Institute for Mathematics, Germany)

Title: Convolution identities for sums of even powers of divisors

Abstract: As a part of asymptotic calculation of correlation functions in $N=4$ supersymmetric Yang-Mills theory, Chester, Green, Pufu, Wang, and Wen have conjectured an unusual-looking weighted convolution identity involving the sum of squares of divisors function σ_2 . I will talk about a proof of this conjecture as well as a more general class of similar identities, which turn out to involve Fourier coefficients of cusp forms for $SL_2(\mathbb{Z})$. The talk is based on a recent joint work with Ksenia Fedosova and Kim Klinger-Logan.