



Department of
Theoretical Physics

THE QUANTUM SPACETIME SEMINAR SERIES

Quantum Mechanics of Plancherel Growth

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Date: February 3rd, 2020

Time: 11:30 am

Venue: A-304, TIFR



Growth of Young diagrams, equipped with Plancherel measure, follows the automodel equation of Kerov. Using the technology of unitary matrix model I will show that such growth process is exactly the same as the growth of gap-less phase of Gross-Witten and Wadia (GWW) model. The analysis offers an alternate proof of limit shape theorem of Vershik-Kerov and Logan-Shepp. I will discuss about large N fluctuations of Young diagrams. Quantization of fluctuations using Hamiltonian dynamics shows that the modes of fluctuations satisfy an abelian Kac-Moody algebra. Eventually, I will propose a correspondence between states of Hilbert space and automodel diagrams, inspired by the quantization procedure.

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