Makeenko-Migdal equations for 2D Yang-Mills: from lattice to continuum

Wednesday, May 21, 2025 11:00 AM (1 hour)

An important type of observables in the Yang-Mills model is the Wilson loops. They satisfy useful recursions, called the Makeenko-Migdal equations, also called the loop equations, which are essentially integration by parts or Dyson-Schwinger equations in the context of Yang-Mills. They can be rigorously formulated and proved on lattices of arbitrary dimensions (by Chatterjee, Cao-Park-Sheffield, etc.), or in 2D continuum (by Levy, Dahlqvist, Driver-Hall-Kemp, etc). We prove that in 2D, the lattice Makeenko-Migdal equations converge to the continuum ones in an appropriate sense.

Based on joint work with S.Smith and R.Zhu.

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