1163-57-139 **Sergei Gukov** and **Ciprian Manolescu*** (cm5@stanford.edu). *GPV invariants and knot complements.*

Gukov, Putrov and Vafa predicted (from physics) the existence of some 3-manifold invariants that take the form of power series with integer coefficients, converging in the unit disk. Their radial limits at the roots of unity should recover the Witten-Reshetikhin-Turaev invariants. Further, they should admit a categorification, in the spirit of Khovanov homology. Although a mathematical definition of the GPV invariants is lacking, they can be computed in many cases. In this talk I will discuss what is known about the GPV invariants, and their behavior with respect to Dehn surgery. The surgery formula involves associating to a knot a two-variable series, obtained by parametric resurgence from the asymptotic expansion of the colored Jones polynomial. (Received August 20, 2020)