CLUSTER QUANTIZATION OF CHARACTER STACKS AS A SINGULAR TOPOLOGICAL FIELD THEORY

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Zoom link:
https://bostonu.zoom.us/j/97456419902?pwd=Vk5hdGQ0dlgwTXZkZ1hRUHM0WndqZz09
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Abstract: Character stacks are certain moduli spaces of G-local systems on a manifold, which arise naturally in both 4d N=4 Kapustin-Witten and 3d N=4 Sicilian gauge theories. Their quantizations relate to deforming the coupling parameter, and introducing omega-deformation, respectively. Fock and Goncharov have introduced a modification of character varieties, in which the G-local systems are decorated with parabolic reductions along fixed regions of the surface, and on these decorated character varieties they have exhibited cluster structures. This means, there is a family of open subsets, indexed combinatorially, on which the stack is actually an algebraic torus. The transitions between charts are given by certain explicit birational transformations called mutations. Finally, they have defined a quantization of this structure, which has a number of remarkable properties.

In this talk I will explain how to upgrade their construction to a fully extended topological field theory using the framework of stratified factorization homology developed by Ayala-Francis-Tanaka.

See `http://math.bu.edu/research/geom/seminar.html` or contact Yu-Shen Lin (*yslin@bu.edu*) or Siu-Cheong Lau (*lau@math.bu.edu*) for more information.