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Title: Moduli spaces of filtered G-local systems on curves

Abstract: The celebrated Simpson's tame nonabelian Hodge correspondence shows that the appropriate topological objects from the Betti side are the so-called filtered local systems, which are local systems with monodromy-preserving weighted filtrations assigned to boundary divisors. However, such nonabelian Hodge correspondence was only known at the level of categories until recently, due to the lack of a construction of the moduli spaces of filtered local systems. In this talk, we will introduce filtered local systems and demonstrate a purely algebro-geometric construction of their moduli spaces. This method is applicable to general reductive groups. If times permits, we will also talk about the moduli construction for irregular singular case, namely the moduli spaces of filtered Stokes local systems on curves. This is a joint work with Hao Sun.