An approach to non-abelian Hodge theory

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Abstract: In this talk, I will present an approach to non-abelian Hodge theory in higher degrees, generalizing the non-abelian Hodge theory of C. Simpson for the fundamental group to higher homotopical invariants. It is based on the notion of 'schematization' of a space, which coincides with Quillen-Sullivan's rationalization construction in the simply connected case but is better behaved for spaces with arbitrary fundamental groups. The main result (joint with Katzarkov and Pantev) is the existence of a 'non-abelian mixed Hodge structure' on the schematization of any smooth projective complex variety. I'll also explain some consequences, like formality and restrictions on homotopy types.