

On the non-abelian Hodge locus

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Given a family of smooth projective algebraic varieties, the non-abelian Hodge locus is the subset of the relative Betti moduli space of representations of the fundamental group of the fibers which are integral, and which, under the non-abelian Hodge correspondence of Simpson, Corlette,... underlie a polarized variation of Hodge structure. In this talk I will explain an algebraicity result of this locus, partially answering conjectures of Simpson and Deligne. The proof relies on the construction of an algebraic Douady space of subvarieties of compact quotients of period domains and techniques from hyperbolic and metric geometry. The results in this talk are joint work with Philip Engel.