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Title: Motivic mirror symmetry for Higgs bundles

Abstract: Moduli spaces of Higgs bundles for Langlands dual groups are conjecturally related by a form of mirror symmetry. For SL_n and PGL_n, Hausel and Thaddeus conjectured a topological mirror symmetry given by an equality of (twisted orbifold) Hodge numbers, which was proven by Groechenig-Wyss-Ziegler and later by Maulik-Shen. We lift this to an isomorphism of Voevodsky motives, and thus in particular an equality of (twisted orbifold) rational Chow groups. Our method is based on Maulik and Shen's approach to the Hausel--Thaddeus conjecture, as well as showing certain motives are abelian, in order to use conservativity of the Betti realisation on abelian motives. The same idea also enables us to prove a motivic chi-independence result. If there is time, I will explain how motivic nearby cycles can be used to specialise these results to positive characteristic. This is joint work with Simon Pepin Lehalleur.