

Pullback and direct image of parabolic connections and parabolic Higgs bundles

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Abstract-

We provide an explicit algebraic construction—for the pullback and direct image of parabolic bundles, parabolic Higgs bundles, and parabolic connections—through nonconstant maps between compact connected Riemann surfaces. We show that these constructions preserve semistability and polystability. We also prove that these constructions are compatible with the nonabelian Hodge correspondence.

Index Terms- Parabolic bundle, nonabelian Hodge correspondence, pullback, direct image, semistability

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