

Gauge-theoretic gluing techniques over Riemann surfaces

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Abstract

Stable holomorphic bundles over a Riemann surface can be realized from a rather analytic perspective seen as solutions to certain Hermite-Einstein equations. More general correspondences of this kind allow one to include classes of augmented principal holomorphic bundles into the study. We will exhibit a set of analytic techniques that can be used in order to obtain solutions of gauge-theoretic equations, thus leading to important models in the moduli spaces of such augmented bundles. These models can provide useful information about the moduli spaces themselves.