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Title: The Riemann-Hilbert mapping on \mathfrak{sl}_2 -systems

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Abstract: The Riemann-Hilbert mapping on \mathfrak{sl}_2 -systems associates, to any \mathfrak{sl}_2 connection on a trivial bundle $X \times \mathbb{C}^2$ over a genus $g \geq 2$ Riemann surface X , the class of its monodromy representation in the SL_2 character variety.

We prove that the Riemann-Hilbert mapping is a local diffeomorphism around any point of genus $g = 2$ with irreducible monodromy.