

Meeting: 1003, Atlanta, Georgia, AMS CP 1, AMS Contributed Paper Session

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Monodromy on the Punctured Sphere.

Given a representation in $SL_2(\mathbf{C})$ of the fundamental group of a Riemann surface, we find scalar Schwarzian differential equations with that monodromy group. We accomplish this by determining from the monodromy a first-order matrix equation involving a connection on a holomorphic vector bundle. We then define a correspondence between these matrix equations and the second-order Schwarzian equations. To keep matters explicit, we concentrate on the example of the punctured sphere. (Received October 01, 2004)