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An action of Virasoro algebra on the formal loop group solutions of 2d reduced Einstein equations

The space of formal loop group solutions given by a linearization of the 2d reduced Einstein equations, e. g. stationary axially symmetric space-times, is a homogeneous space of an infinite-dimensional group $\mathcal{G}$, which we call Geroch group or Hauser Group. This group represents the so-called hidden symmetry. Furthermore, there is another symmetry of the space of solutions, which comes from infinite-dimensional conformal transformations in 2 dimensional case. We discuss an action of Virasoro on the solutions, its exponentiation and a central extension related to it, from the formal loop group point of view.