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Annette Bachmayr, David Harbater, Julia Hartmann* (hartmann@math.upenn.edu) and
Michael Wibmer. *Galois groups of linear differential equations over the rational function field.*

In analogy to the usual Galois theory for polynomial equations, differential Galois theory provides a framework for describing symmetries of linear differential equations. The symmetry groups occurring in this setting are linear algebraic groups. We report on joint work with A. Bachmayr, D. Harbater, and M. Wibmer concerning the absolute differential Galois group of the rational function field over the complex numbers (a longstanding open problem posed by B.H. Matzat). The methods include patching techniques for torsos under linear algebraic groups. (Received January 24, 2022)