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**Henri Gillet**, **Sergey Gorchinskiy** and **Alexey Ovchinnikov\***, City University of New York, Queens College, Department of Mathematics, 237 Kiely Hall, 65-30 Kissena Blvd, Flushing, NY 11367. *Geometry of differential Tannakian categories.*

The Galois theory for systems of linear differential equations with parameters developed by Cassidy and Singer requires the field of constants of the base field to be differentially closed. In the language of Tannakian categories, the latter extra condition was used to show the existence of a differential fibre functor that computes solutions of the system. Using techniques from algebraic geometry, Atiyah extensions, we show how to construct a differential fibre functor for a large class of base differential fields not requiring the constants to be differentially closed. (Received September 21, 2009)