

- DAVID MERETZKY, *Maps between Katz Groups of LODEs*.

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An old question of Fano and a desire to give criterion for when an linear ordinary differential equation (LODE) is Liouvillian/Eulerian led to the development of machinery relating representations of the differential Galois group to tensorial operations on LODEs. The Katz group associated to an LODE encodes lots of information about these representations. In 2003, Anand Pillay showed a precise connection between the model theoretic intrinsic Galois group and the Katz group attached to an LODE. Together with Pillay, we later showed that two linear differential equations have the same Picard–Vessiot extension iff their intrinsic differential Galois groups together with their action on certain torsors are isomorphic. In joint work with Camilo Sanabria, we write down exactly the maps between Katz groups guaranteed to exist when the associated PV extensions are related. With Pillay’s 2003 theorem this then gives concretely the isomorphism of torsors from our previous theorem with Pillay.