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Algebraic varieties with an extra structure

(joint work with Anand Pillay)

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We consider the category of D -varieties (over a differentially closed field of characteristic 0) in the sense of Buium. We obtain quantifier elimination results for algebraic D -groups. We extend definitions and results to the case of fields with Hasse derivations and fields with generic automorphisms. Some of the results also follow in the case of algebraically closed fields with Frobenius.