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Derivations and differentials of Lie algebras

Derivations of Lie algebras play an important role in the construction of for example Extended Affine Lie Algebras. I will present an overview over the theory of differentials of Lie algebras which then allows a functorial approach to derivations, leading to the construction of algebraic Lie algebroids associated to forms of simple Lie algebras over a commutative ring. Similarly, in the spirit of Atiyah, one can associate a Lie algebroid to any simple group scheme over a ring.

This is joint work with Arturo Pianzola and Federico Quallbrunn.