Lie-Rinehart (super)algebras

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Lie-Rinehart algebras are algebraic analogs of Lie algebroids. A Lie-Rinehart superalgebra is a pair (A, L), with A an associative supercommutative $\mathbb{K}$-superalgebra, $\mathbb{K}$ being a commutative ring, and L a Lie $\mathbb{K}$-superalgebra. Moreover, L must be an A-module, and there must exist a Lie algebra map $\rho : L \longrightarrow \mathrm{Der}(A)$ such that L acts on A by superderivations. In this talk, we aim to present a classification of those structures in low dimensions and a theory of formal deformations based on formal power series and a suitable cohomology. Finally, we will focus on so-called restricted Lie-Rinehart algebras in positive characteristic and discuss ongoing works related to the classification and deformations of those objects.