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Descent constructions in infinite dimensional Lie theory

Many interesting objects in infinite dimensional Lie theory can be thought as being finite dimensional when viewed not as objects (algebras, groups...) over the base field (usually the complex numbers), but rather as objects over their centroids (usually a Laurent polynomial ring). From this point of view, the language of torsors and descent constructions arise naturally. I will present several examples of how these methods can be used to study a class of algebras intimately related to the affine Kac–Moody Lie algebras.