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Title: *Graded Lie algebras and families of algebraic curves*

Abstract: Graded Lie algebras give a uniform approach to many questions in arithmetic statistics. I'll give some background about graded Lie algebras and show how they arise in proofs about families of algebraic curves. For a certain class of graded Lie algebras, Thorne showed that we can construct families of curves as fibers of a certain categorical quotient map. I'll talk about ongoing work with Jef Laga to generalize this construction, including new examples.