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Algorithms for finding Lie superalgebra structure of regular super differential equations

Super differential equations are non-commutative generalization of conventional differential equations, and arise naturally in some physics field theories. Exactly solving conventional differential equations is often difficult and similarly solving super differential equations maybe difficult or impossible. Lie supersymmetry is a generalization of Lie symmetry to super differential equations and the infinitesimal form of the supersymmetries satisfy a supersymmetry defining system.

I show how to find the structure (commutator table) of Lie super algebra of symmetries of sufficiently regular super differential equations without solving their supersymmetry defining system. I will use two examples to show the new method which uses existing commutative Maple commands for such non-commutative calculations.