Título: Involution. The Formal Theory Of Differential Equations And Its Applications In

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The book provides a self-contained account of the formal theory of general, i.e. also under- and overdetermined, systems of differential equations which in its central notion of involution combines geometric, algebraic, homological and combinatorial ideas. It presents for the first time in book form the theory of Pommaret bases, a special kind of Gröbner bases closely related to Koszul homology, and contains an extensive discussion of the existence and uniqueness of solutions of formally well-posed initial value problems and a novel presentation of Vessiot's dual version of the Cartan-Kähler theory. Special emphasis is put on a constructive approach leading to effective algorithms.

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