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Vyacheslav Futorny* (futorny@ime.usp.br), Institute of Mathematics, University of Sao Paulo, Caixa Postal 66281, 05315-970 Sao Paulo, SP, Brazil. *Galois algebras and Gelfand-Tsetlin representations.*

Gelfand-Tsetlin representations generalize celebrated Gelfand-Tsetlin formulas for finite-dimensional modules over simple finite-dimensional Lie algebras. The main focus will be on two recent developments in this theory. First - the existence of Gelfand-Tsetlin modules with a given character, which is based on a generalization of Kostant's theorem for a class of "almost commutative" algebras. Second - the extension of Gelfand-Tsetlin theory for a class of Galois algebras in skew group rings corresponding to certain bimodules and Galois field extensions. The cases of the general linear Lie algebra, its Yangian and the quantized enveloping algebra will be discussed. The talk is based on joint results with S.Ovsienko. (Received March 04, 2006)