1030-16-415 **Yuri Bahturin*** (yuri@math.mun.ca), Department of Mathematics and Statistics, Memorial University of Newfoundland, A1C 5S7, St. John's, NL, Canada. *Group gradings on simple Lie and Jordan algebras and Hopf algebras.*

Famous I. Herstein's conjectures about Lie homomorphisms and derivations of associative rings have been finally settled in the papers of Beidar, Bresar, Chebotar and Martindale. In a recent monograph by the last three authors they obtain even stronger results. We hope that these results in combination with Hopf algebra methods can be used for the description of group gradings on various simple Lie and Jordan algebras closely related to associative algebras, with milder restrictions on the dimension of algebras and/or the field of coefficients. (Received August 07, 2007)