Kenneth L. Price* (pricek@uwosh.edu), UW Oshkosh, 800 Algoma Boulevard, Oshkosh, WI 54901. A Domain Test for Lie Color Algebras.

Lie color algebras are generalizations of Lie superalgebras and graded Lie algebras. We begin with background on Lie color algebras and show the universal enveloping algebra of a Lie color algebra can be very different from that of an ordinary Lie superalgebra. We describe a test which uses Gröbner basis methods to determine when the universal enveloping algebra is a domain. This is applied in an example to show the universal enveloping algebra may be a domain even if it contains torsion elements and the base field is algebraically closed. This cannot happen for graded Lie algebras or Lie superalgebras. (Received September 12, 2008)