Meighan I. Dillon* (mdillon@spsu.edu), Mathematics Department, Southern Polytechnic State University, 1100 S. Marietta Pkwy, Marietta, GA 30060. Constructing Graded Lie Algebras.

The grading determined by a long simple root of an untwisted affine or finite type Lie algebra arises from a cominuscule representation of a lower rank semisimple complex Lie algebra. Analysis of the relationship between the grading and the representation leads to a generalization of the so-called minuscule algorithm of Landsberg and Manivel as well as Kac’s construction of untwisted affine Lie algebras. (Received August 10, 2004)