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Nicols Andruskiewitsch* (andrus@famaf.unc.edu.ar), FaMAF - UNC, Medina Allende s/n, (5000) Ciudad Universitaria, Crdoba, ME, Argentina. *Nichols algebras of semisimple Yetter-Drinfeld modules This is joint work with I. Heckenberger and H.-J. Schneider.*

The presentation by generators and relations of the Drinfeld-Jimbo quantized enveloping algebra includes the so-called "quantum Serre relations". Several authors, e.g. Lusztig, Rosso, Schauenburg, offered abstract definitions of quantized enveloping algebras. It turns out from these explanations that the positive part of a quantized enveloping algebra is a Nichols algebra. The notion of Nichols algebra plays a central role in the classification of pointed Hopf algebras. If the group of a pointed Hopf algebra is abelian, then the corresponding Nichols algebra arises from a diagonal braiding, that can be viewed as a generalized Dynkin diagram. Under favorable hypothesis, this is related to a quantized enveloping algebra. To deal with the more general case, I. Heckenberger introduced "reflections" that assign new Nichols algebras to any vertex of the generalized Dynkin diagram. In this talk, a generalization of these reflections to a far more general setting will be explained. This leads us to attach a generalized Cartan matrix and a Weyl groupoid to any semisimple Yetter-Drinfeld module. In the particular case called "standard", we prove: if the Nichols algebra is finite, then the generalized Cartan matrix is of finite type. (Received January 05, 2008)