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Mathematisches Institut der LMU, Theresienstr. 39, München, and **Istvan Heckenberger**. *Root system and Weyl groupoid of Nichols algebras*. Preliminary report.

This is a report on joint work in progress with I. Heckenberger. Let V be a finite-dimensional Yetter-Drinfeld module over a Hopf algebra H with bijective antipode. Assume that V and all its finite tensor powers are semisimple. Using a recent paper by M. Graña and I. Heckenberger we show that the Nichols algebra of V can be written as a Yetter-Drinfeld module in a unique way as a tensor product of (in general infinitely many) Nichols algebras of finite-dimensional simple Yetter-Drinfeld modules over H . Thus we generalize Kharchenko's basic result on PBW-bases of Nichols algebras in the diagonal case, that is, when all the simple submodules of V are one-dimensional. We then use this generalization of Kharchenko's PBW-basis and the results of a recent paper by N. Andruskiewitsch, I. Heckenberger and H.-J. Schneider on reflections for Nichols algebras to define the root system and the Weyl groupoid of the Nichols algebra of V . (Received March 11, 2008)