Title: Enveloping algebras for Hom-Lie algebras in Hom-Yetter–Drinfeld categories

Author(s): Shengxiang Wang, Xiaohui Zhang and Shuangjian Guo

In this paper, we first introduce the definition of braided Hom-Lie algebras and present some construction methods. Second, we study the central invariant theory for braided Hom-Lie algebras and prove that the enveloping algebras of braided Hom-Lie algebras are H-cocommutative Hom-Hopf algebras. Finally, we study Radford's Hom-biproduct, and therefore obtain the Schur–Weyl duality in the setting of Hom-Hopf algebras.

Address:
Shengxiang Wang
School of Mathematics and Finance
Chuzhou University
Chuzhou, Anhui, 239000
P. R. China

Address:
Xiaohui Zhang
School of Mathematical Sciences
Qufu Normal University
Qufu, Shandong, 273165
P. R. China

Address:
Shuangjian Guo
School of Mathematics and Statistics
Guizhou University of Finance
and Economics
Guiyang, Guizhou, 550025
P. R. China