Rota-Baxter $H$-operators and pre-Lie $H$-pseudoalgebras over a cocommutative Hopf algebra $H$

Linlin Liu
School of Mathematics, Southeast University, PRC

ABSTRACT
The aim of this paper is to study the Rota-Baxter $H$-operators and $H$-pseudoalgebras of different types over a cocommutative Hopf algebra $H$. Firstly, we introduce the concept of a Rota-Baxter $H$-operator on an $H$-pseudoalgebra, and give some basic properties and examples. Then, we obtain a large number of pre-Lie (resp. associative) $H$-pseudoalgebras from the ordinary Rota-Baxter algebras. Finally, the annihilation algebras of the left pre-Lie $H$-pseudoalgebras are discussed.