

KAPLANSKY'S CONSTRUCTION TYPE AND CLASSIFICATION OF WEAK BIALGEBRAS AND WEAK HOPF ALGEBRAS

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Abstract: *In this paper, we study weak bialgebras and weak Hopf algebras. These algebras form a class wider than bialgebras respectively Hopf algebras. The main results of this paper are Kaplansky's constructions type which lead to weak bialgebras or weak Hopf algebras starting from a regular algebra or a bialgebra. Also we provide a classification of 2-dimensional and 3-dimensional weak bialgebras and weak Hopf algebras. We determine then the stabilizer group and the representative of these classes, the action being that of the linear group.*