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Robert Laugwitz*, Department of Mathematics, Rutgers University, Hill Center for the Mathematical Sciences, 110 Frelinghuysen Rd, Piscataway, NJ 08854-8019. *Comodule algebras and 2-cocycles over the Drinfeld double.*

Given a comodule algebra over a bialgebra, a crossed product with its dual naturally becomes a comodule algebra over the Drinfeld double. As an application, a morphism of second non-abelian cohomology spaces of dually paired Hopf algebras to their Drinfeld double is obtained. These construction generalize to the double bosonizations of Majid. (Received September 21, 2017)