1011-06-129 **Key One Chung*** (kochung@iastate.edu), 396 Carver Hall, Iowa State University, Ames, IA 50011. *Morphisms on Coalgebras*. Preliminary report.

In general, the product of coalgebras is not obtained with a simple construction, even if it exists. Furthermore, in some places, a homomorphism between coalgebras is stronger than we expect. In this paper, we suggest the relaxation of the condition for the definition of homomorphism in order to obtain a proper level of homomorphism. With this relaxation, we obtain a simple construction for the product of coalgebras. Our main example is the finite powerset functor. (Received August 30, 2005)