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Wen-Xiu Ma* (mawx@cas.usf.edu), Department of Mathematics, 4202 E Fowler Avenue,
Tampa, FL 33620-5700. *Hamiltonian Structures of Integrable Couplings.*

An approach to Hamiltonian structures of so-called integrable coupling systems is proposed. The basic tool is a variational identity associated with general Lie algebras, both simple and non-simple. Examples in continuous and discrete cases will be given to show the existence of integrable Hamiltonian couplings for the AKNS integrable equations and the Volterra lattice equation. (Received September 07, 2007)