1131-35-303 **Solomon Manukure*** (`smanukure@mail.usf.edu`), The University of Texas at Austin, Department of Mathematics, RLM 8.100, 2515 Speedway Stop C1200, Austin, TX 78712. *Bi-integrable Couplings and Bi-Hamiltonian Formulations of Soliton Hierarchies.*

Zero curvature equations associated with simple Lie algebras generate classical integrable systems, and the case of semisimple Lie algebras generate noncoupled systems of classical integrable systems. If the associated Lie algebra is non-semisimple, zero curvature equations generate so-called integrable couplings, which are triangular coupled systems of classical integrable systems. In this talk, we discuss bi-integrable couplings for a soliton hierarchy associated with a non-semisimple loop algebra and demonstrate the Liouville integrability of this hierarchy by showing that it posses a bi-Hamiltonian structure. (Received July 17, 2017)