1016-58-230   **Luen-Chau Li*** (`luenli@math.psu.edu`), Department of Mathematics, Pennsylvania State University, University Park, PA 16802. *On Dirac submanifolds and Poisson involutions in the theory of integrable systems.*

The notion of Dirac submanifold of a Poisson manifold was introduced a few years ago by Ping Xu. An important class of Dirac submanifolds is given by the cosymplectic submanifolds of Weinstein. Dirac submanifolds can also arise as the stable locus of a Poisson involution. In this talk, I will discuss an elementary result which shows how to reduce a Poisson map between two Poisson manifolds to one between their respective Dirac submanifolds. Then I will consider some applications of this result to integrable systems. In particular, a system proposed by Bloch and Iserles will be used as an example to illustrate how its Poisson structure can be discovered by means of Poisson involution. (Received February 13, 2006)