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**Taixi Xu\*** (txu@spsu.edu), 1100 S. Marietta PKWY, Department of Mathematics, Marietta, GA 30060. *New Finite-Dimensional Integrable Systems by Reduction.*

In the paper, we get some new finite dimensional completely integrable systems using a general method: the reduction.

Given the Hamiltonian operator and the infinite dimensional Integrable Hamiltonian equation with its first integrals, we find an invariant set  $S$  under the flows defined by Hamiltonian equations. The infinite dimensional integrable system is then restricted on  $S$  and we obtain the finite dimensional completely integrable system. We will give a few examples including AKNS hierarchy. (Received September 26, 2006)