1030-37-19 **Kenneth R. Meyer*** (ken.meyer@uc.edu), Dept. of Mathemtatics, ML 25, University of Cincinnati, Cincinnati, OH 45221. *Solenoids and adding machines in Hamiltonian Systems.*

Generically a C^∞ Hamiltonian on a compact symplectic manifold has solenoid minimal sets of every possible type. Solenoid minimal sets admit a cross section which is a Cantor set and the section map is a generalized adding machine. So adding machines occur naturally in Hamiltonian systems.

Are solenoid minimal sets are always the limit of periodic orbits? In low dimensions the answer is yes, but in higher dimensions the answer is no. A stable adding machine minimal set for a homeomorphism of the plane is the limit of periodic points and also a flow on a three-dimensional manifold which has a stable solenoid minimal set is the limit of periodic solutions. (Received June 12, 2007)