1089-37-331 **Tamara Kucherenko*** (tkucherenko@ccny.cuny.edu), Department of Mathematics, The City College of New York, NAC 8/133, Convent Ave at 138th Street, New York, NY 10031, and **Christian Wolf**. *The geometry of generalized rotation sets.*

For a continuous map f on a compact metric space we study the geometry of the generalized rotation set $\mathrm{Rot}(\Phi)$. Here $\Phi = (\phi_1, ..., \phi_m)$ is a m-dimensional continuous potential and $\mathrm{Rot}(\Phi)$ is the set of all integrals of Φ with respect to f-invariant probability measures. It is easy to see that the rotation set is a compact and convex subset of $\mathbb{R}^m$. We study the question if every compact and convex set is attained as a rotation set of a particular set of potentials within a particular class of dynamical systems. We give a positive answer in the case of subshifts of finite type by constructing for every compact and convex set K in $\mathbb{R}^m$ a potential $\Phi = \Phi(K)$ with $\mathrm{Rot}(\Phi) = K$. (Received February 18, 2013)