1125-53-3063 **François Ziegler*** (fziegler@georgiasouthern.edu), Department of Mathematical Sciences, Georgia Southern University, Statesboro, GA 30460-8093. *Symplectic and Contact Imprimitivity.*

A famous theorem of Mackey characterizes those unitary G-modules V that are induced from a closed subgroup $H \subset G$ by the presence of a *system of imprimitivity* based on G/H: that is, a G-invariant, commutative C*-subalgebra of $\mathrm{End}(V)$ whose spectrum is, as a G-space, homogeneous and isomorphic to G/H. In this work, we similarly characterize those hamiltonian G-spaces X that are induced from H (in the sense of Kazhdan-Kostant-Sternberg, 1978) by the presence of a (symplectic) *system of imprimitivity* based on G/H: that is, a G-invariant, Poisson commutative subalgebra $\mathfrak{f}$ of $C^\infty(X)$, consisting of functions whose hamiltonian flow is complete, and such that the image of the moment map $X \to \mathfrak{f}^*$ is homogeneous and isomorphic to G/H. Likewise, we characterize induced Kostant-Souriau bundles over hamiltonian G-spaces by the presence of a (contact) system of imprimitivity. This result is a key ingredient in the Mackey 'normal subgroup analysis' of hamiltonian and Kostant-Souriau G-spaces. (Received September 20, 2016)