1030-37-328 **E Arthur Robinson*** (robinson@gwu.edu), Department of Mathematics, George Washington University, Washington, DC 20052. *The dynamics of model sets.*

A *model set* is a projection of a slice through a lattice to a perpendicular subspace. Model sets were introduced in the 1970's by Y. Meyer, achieved fame in the 1980's when N. G. de Bruijn discovered that the vertices a Penrose tiling are a model set, and subsequently became the favorite model for quasicrystalographers. A "regular" model set determines a type of strictly ergodic "symbolic" dynamical system that has measurable, but not topological, pure point spectrum. More exotic model sets can have positive topological entropy and can fail to be uniquely ergodic. We will show that a sort of Halmos-von Neumann Theorem holds for "regular" model sets and examine an example of a model set of the more exotic kind. (Received August 06, 2007)