1106-37-1928 **William Yessen***, yessen@rice.edu. *Applications of polynomial dynamics to spectral theory of aperiodic infinite Jacobi matrices.*

Aperiodic Jacobi operators, arising in the study of the physics of quasicrystals, have been widely studied for the past thirty years. A well-developed technique for studying the (topological structure of the) spectrum of such operators relies on dynamical properties (Axiom A, partial hyperbolicity, and other) of a certain class of polynomial maps, called the trace maps. We shall present this technique in a general context, as well as some classical and recent results obtained by application of this technique. We shall also state a few open problems of modern interest that relate not only to spectral theory of the aforementioned operators, but also to some questions in holomorphic dynamics. (Received September 15, 2014)