Meeting: 1005, Newark, Delaware, SS 9A, Special Session on Arithmetic Groups and Related Topics

1005-22-47 **Gregory Soifer*** (gregory.soifer@gmail.com), Gregory Soifer, 80 Howe Street, New Haven, CT 06511. *The Auslander conjecture and dynamics of affine transformations.*

A long standing conjecture of Auslander states that every affine crystallographic group Γ is virtually solvable. One of the main goal of our talk is to give an up-to-date survey on the Auslander conjecture. We will display new methods and ideas as well as new conjectures. The Auslander conjecture is one of the most celebrated questions related to the study of (the existence of) discrete free subgroups of various linear groups. In the first part of our talk we will explain how one can construct free subgroups in affine crystallographic group and derive some consequences for crystallographic groups that have such free subgroups. In the second part, we shall focus on the behavior of random products of affine transformations. (Received January 21, 2005)