Meeting: 1002, Pittsburgh, Pennsylvania, SS 2A, Special Session on Convexity and Combinatorics

1002-05-172 **Dan Ismailescu*** (matdpi@hofstra.edu), 103 Hofstra University, Department of Mathematics, Hempstead, NY 11549. *A Dense Planar Set From Iterated Line Intersections.*

Given S_1, a set of points in the plane, not all on a line, we define a sequence of planar point sets $\{S_i\}_{i=1}^{\infty}$ as follows: with S_i already determined, let L_i be the set of all the lines determined by pairs of points from S_i, and let S_{i+1} be the set of all the intersection points of lines in L_i. We show that with the exception of some very particular starting configurations, the limiting point set $\bigcup_{i=1}^{\infty} S_i$ is everywhere dense in he plane. This is joint work with Radoš Radoičić. (Received September 13, 2004)