

962-51-1231

Reza R Ahangar* (rahangar@mail.uca.edu), 201 Donaghey Avenue, Math Department, UCA, Conway, AR 72035-0001. *Statistical Geometry*. Preliminary report.

In a traditional Euclidean plane the position of "point" and "line" and their relationships are introduced deterministically. By accepting the uncertainty principle in an Euclidean plane, the position of point, line, and every geometric shape will be assigned by the statistical parameters of mean and standard deviation. A heuristic model of Euclidean statistical geometry will be introduced. The axioms and undefined terms are reviewed. For the purpose of introduction, applications of these notions like mean, variance, and covariance are developed. We discuss the geometric interpretations of the correlation coefficient for vectorial random events in the Euclidean plane. The consistency of principles of statistical and geometric structure will be verified. (Received October 02, 2000)