1150-43-612 **Krystal Taylor***, 231 W. 18th Ave., MW 622., OH 43214, and **Laura Cladak** and **Blair Davey**. *The Buffon Circle Problem- A Quantitative Version.*

We discuss the classic Buffon-needle problem in the setting when needles (unit line segments) are replaced by circles. It is known that a needle dropped in the unit square will not intersect the four-corner Cantor set almost surely. We aim to establish a quantitative result on the rate of decay connected to the probability that a unit circle dropped at random intersects the four-corner Cantor set. A qualitative version of this theorem was obtained by the K. Taylor in joint work with K. Simon. This project lies in the intersection of fractal geometry and harmonic analysis, and an underlying theme is the study of projections of self-similar fractals. (Received July 16, 2019)