

1135-46-1999      **S E Scott\*** ([sscott1008@gmail.com](mailto:sscott1008@gmail.com)), 2973 N 55th Street, Milwaukee, WI 53210. *Ergodicity defect tortuosity metric.*

The detection and measurement of the abnormal tortuosity – i.e., the abnormal bending and winding - of vessels is recognized as an important diagnostic indicator for many diseases, but although several metrics for tortuosity have been proposed, no single one measure is able to capture all types of tortuosity. This talk presents the ergodicity defect tortuosity metric (ED) which is based on the ergodicity defect, a technique which measures the complexity of a system's trajectories in terms of how they cover the space; hence, a vessel that has excessive bending and winding can be considered more complex than nontortuous vessels. The technique is considered with vessels from retinal images (fundus photos) and MRA tumor images. (Received September 26, 2017)