1154-11-1180 **Michel L. Lapidus**, **Machiel van Frankenhuijsen** and **Edward K. Voskanian*** (voskanie@tcnj.edu). *Towards the Development of a Diffraction Measure for the Sets of Complex Dimensions of Nonlattice Self-Similar Fractal Strings via Lattice Approximation.* Preliminary report.

Lapidus and van Frankenhuijsen have established an intersection between their theory of complex dimensions, and the theory of mathematical quasicrystals in several books and papers. Following the work of Lagarias on diffraction by ideal crystals under a measure theoretic idealization of kinematic diffraction developed by Hof, a diffraction measure for the sets of complex dimensions of regular lattice self-similar fractal strings was developed in Voskanian's Ph.D. thesis. In this talk, the latter result along with a conjecture by Lapidus towards an extension to the nonlattice case via lattice approximation is presented. (Received September 13, 2019)