1154-55-483   **Hitesh Gakhar*** (`gakharhi@msu.edu`), 619 Red Cedar Road, Wells Hall, East Lansing, MI 48824, and **Jose A Perea** (`joperea@msu.edu`). *Sliding window embeddings of quasiperiodic functions.*

Classically, Sliding Window Embeddings were used in the study of dynamical systems to reconstruct the topology of underlying attractors from generic observation functions. In 2015, Perea and Harer used sliding window embeddings of L^2 periodic functions and persistent homology to develop a technique for recurrence detection in time series data. We define a quasiperiodic function as a superposition of periodic functions with non-commensurate harmonics. As it turns out, sliding window embeddings of quasiperiodic functions are dense in high dimensional tori. In this talk, I will present some results for this case and present strategies to study their persistent homology using a persistent Künneth formula. (Received September 05, 2019)