

1154-51-160

Kyle Andrie, Anh Tran and **J Mealy*** (jmealy@austincollege.edu). *Space-time staircase metric tori.*

After a brief introduction to the category, staircase metric (SCM) geometry, its accompanying methodology, and its extension to the space-time category, we utilize said framework to construct and investigate a variety of compact SCM space-time manifolds – including specifically such surfaces of higher genus. In particular, we consider various new signature (1,1) SCM tori, and then study properties of the time-like geodesics. Specific families of these tori are defined and analyzed; some feature more exotic closed time-like geodesics. Others utilize a more complex boundary quotient scheme than in previous work, and feature large collections of long, yet incomplete time-like geodesics. (Received August 16, 2019)