1176-37-174   **Victor J. Donnay***, Bryn Mawr College, 101 N. Merion Ave, Bryn Mawr, PA 19010-2859, and **Daniel Visscher**. *Title: Embedded surfaces of finite genus with Anosov geodesic flow: Part I.*

Abstract: We start our construction of an embedded surface of finite genus with Anosov geodesic flow by examining a model space consisting of two flat tori joined by tubes of negative curvature. The tubes satisfy a finite horizon condition resulting in an Anosov geodesic flow. We develop a continuous dependence theorem that allows us to quantify how large a perturbation can be made to the flat metric outside the tubes while still retaining the finite horizon property. Along with a standard cone field argument, this allows us to produce metrics with positive curvature outside the tubes for which the geodesic flow is Anosov. (Received January 21, 2022)