1068-05-247 **Guantao Chen*** (gchen@gsu.edu), **Songling Shan** and **Han Ren**. *Homomorphically Irreducible Trees in Locally Connected Graphs.* Preliminary report.

Given a graph, a spanning tree without vertices of degree 2 is called a homomorphically irreducible spanning tree (HIST) of the graph. A. Hill conjectured that every triangulation of the plane other than K_3 contains a HIST. J. Malkevitch extended this conjecture to a near-triangulation of the plane(a 2-connected plane graph with all but at most one faces are triangles). Albertson, Berman, Hutchinson, and Thomassen confirmed the conjecture. In the same paper, they asked whether *every triangulation of a surface contain a HIST*. We show that every connected and locally connected graph with more than 3 vertices contains a HIST. Consequently, every triangulation of a surface contains a HIST. Additionally, we show that, for every vertex v in a connected and locally connected graph with at least two vertices, there is a contractible edge incident to v. (Received January 19, 2011)