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**Guantao Chen\*** (gchen@gsu.edu), Department of Mathematics and Statistics, Georgia State University, Atlanta, GA 30303, and **Songling Shan**, Department of Mathematics and Statistics, Georgia State University, Atlanta, GA 30303. *Homeomorphically Irreducible Spanning Trees*.

Let  $G$  be a graph. A spanning tree of  $G$  is called a *homeomorphically irreducible spanning tree* (HIST) if it does not contain vertices of degree 2. In 1979, Albertson, Berman, Hutchinson, and Thomassen asked the following two questions:

1. Does every triangulation of a surface contain a HIST except the triangle?
2. Does every graph with every edge on two triangles contain a HIST?

We have confirmed both questions positively. The outlines of the proofs will be given in this talk. (Received January 30, 2012)