1068-52-138 **Wei-Zhao Guo** and **Tai-Man Tang*** (tmtang@xtu.edu.cn), School of Mathematics and Computational, Sciences, Xiangtan University, Xiangtan, Hunan 411105, Peoples Rep of China.

Topology of Planar Self-Affine Tiles with Consecutive Collinear Digit Sets of Low Complexity.

In a planar tiling by a self-affine tile with consecutive collinear digit set, the neighbors of a tile are in layers. We say that such a tile is of low complexity if it has only a few layers of neighbors. While the structure of such tilings are understood, the topology of the tiles are not. A necessary and sufficient condition for them to be dislike is known. In general, non-disklike fractal tiles need not have holes, like the Heighway Dragon. In this talk, we show that a large class of non-disklike tiles in the title has nontrivial fundamental group. We reason with polygonal approximations of a tile from the outside. They have holes and this property is preserved in taking limit. (Received January 17, 2011)