


复旦大学数学科学学院

数学综合报告会

报告题目：**New minimal surfaces in the hyperbolic space**

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15:30-16:30

报告地点：光华楼东主楼 1501

摘要： In this talk, I will introduce a new class of complete minimal surfaces in the 3D hyperbolic space, by using Ribaucour transformations. This is a joint work with Keti Tenenblat. Starting with the family of spherical catenoids in 3D hyperbolic space found by Mori, we obtain 2 and 3-parameter families of new minimal surfaces in the hyperbolic space. They are the first explicit examples of minimal surfaces in terms of elementry functions after the rotational ones obtained by do Carmo and Dajczer in 1983. Special choices of the parameters provide minimal surfaces whose parametrizations are defined on connected regions of the plane minus a disjoint union of Jordan curves. Any connected region bounded by such a Jordan curve, generates a complete minimal surface, whose boundary at infinity of 3D hyperbolic space is a closed curve. The geometric properties of the surfaces regarding the ends, completeness and symmetries are discussed. Moreover, I will also talk about the study of minimal surfaces in a class of Finsler spaces of constant flag curvature, which is a relatively new research area.

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