课程介绍

课程名称：Introduction to hyperbolic surfaces

主讲人：徐彬斌，卢森堡大学

课程介绍：

Hyperbolic geometry is one main type of the non-Euclidean geometry. The 2-dimensional hyperbolic geometry is the basic of this research area. The main objects studied in this case are hyperbolic surfaces which on one hand admit many interesting properties and a rich deformation theory, and at the same time, provide elementary examples in different research areas. In this mini course, we would like to give an introduction to the geometry on the hyperbolic plane and hyperbolic surfaces.

课程安排：共十次课，每次两小时。

In the first part, we give an introduction to the geometry of the hyperbolic plane, as well as the isometry group of the hyperbolic plane and its discrete subgroups.

In the second part, we will study the geometry on hyperbolic surfaces.

In the end of the mini course, we will briefly discuss two interesting topics in the study of hyperbolic surfaces: identities associated to hyperbolic surfaces and counting geodesics on hyperbolic surfaces.

参考资料：

[1] Alan F. Beardon, The geometry of discrete groups, Graduate Texts in Mathematics, vol. 91, Springer-Verlag, New York, 1983.

[2] Benson Farb and Dan Margalit, A primer on mapping class groups, Princeton Mathematical Series, vol. 49, Princeton University Press, Princeton, NJ, 2012.

[3] Travaux de Thurston sur les surfaces, Séminaire Orsay，Astérisque No. 66-67， Société Mathématique de France, Paris, 1991.

[4] Svetlana Katok, Fuchsian groups, Chicago Lectures in Mathematics, University of Chicago Press, Chicago, IL, 1992.

预备知识：线性代数，数学分析，了解群论，拓扑学一些基本概念

参见课程主页：

http://www.cim.nankai.edu.cn/2019/0110/c11453a118234/page.htm