Srdečně zveme na přednášku

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RELATION BETWEEN FINITE GROUPS AND TRIANGLE GROUPS

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Abstract: Triangle groups are the very useful groups obtained by two reflections on the sides of some hyperbolic triangles. Finite groups have relations with triangle groups and their presentations as triangle groups have a lot of advantages.

Discrete groups have been studied since the end of 19th century after different geometries had been defined. The most popular example is the well-known modular group. In 1936, E. Hecke defined generalisations of the modular group in his study with Dirichlet series. These groups are named after him as Hecke groups. Since then, several authors studied on several versions of Hecke groups and because of different underlying fields, they have very nice algebraic, combinatoric and number theoretic properties.

In this talk, we shall give a brief idea of Hecke groups and their relation with the modular group and obtain their normal subgroups by means of the Riemann-Hurwitz formula, Reidemeister-Schreier method, permutation method and regular map theory. We shall do all these by means of triangle group representations of finite groups The topic is in the intersection of algebra and complex analysis.

[1] I. N. Cangul: Normal Subgroups of Hecke Groups, PhD Thesis, Southampton University, 1994

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[3] I. N. Cangul, Determining Isomorphism class of a Fuchsian group from its signature, Academia Sinica, 29 (2001), 313-316