Seminarium geometrów

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Poniedziałek, 05.06.2023, 14:15 HS

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On the existence of finitely presented intersection-saturated groups

Abstract: (joint work with J. Delgado and M. Roy)

For two subgroups of a group, $H_1, H_2 \leqslant G$, we can look at the eight possibilities for the finite/non-finite generability of H_1, H_2, and $H_1 \cap H_2$. For example, all eight are possible in a free non-abelian group except one of them, expressing the well-known fact that free groups are Howson: intersection of two finitely generated subgroups is again finitely generated. A group G is called intersection-saturated when, for every k, each of the $2^{(2^k-1)}$ such k-configurations is realizable by appropriate subgroups $H_1, \ldots, H_k \leqslant G$.

In this talk, we prove the existence of explicit finitely presented intersection-saturated groups. We also show that the Howson property is the only restriction for realizability in free groups: a k-configuration is realizable in a free non-abelian group if and only if it respects the Howson property.

If time permits, I will explain some ideas to dualize the situation and be able to realize quotient k-configurations (this is still work in progress by the same co-authors).

streaming via ZOOM:

Meeting ID: 967 6507 7409

Meeting password: "GS"(two letters) followed by the Euler characteristic of the closed orientable surface of genus 89.