Temple University Analysis Seminar

Justin Malestein

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will speak

On the self-intersections of curves deep in the lower central series of a surface group

ABSTRACT: In this talk, we relate topological aspects of a curve on a surface to its algebraic propertries. In particular, we will give various estimates of the minimal number of self-intersections of a nontrivial element of the kth term of the lower central series and derived series of the fundamental group of a surface. As an application, we obtain a topological proof of the fact that free groups and fundamental groups of closed surfaces are residually nilpotent. Joint work with Andrew Putman.

Monday, 23 March 2009
Lecture at 2:40 pm
Coffee, tea, and refreshments from 3:30–5 pm
Room 617, Wachman Building
Department of Mathematics