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Title: Distribution of test elements in free groups and surface groups

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Abstract: An element g of a group G is called a test element if for any endomorphism φ of G , $\varphi(g) = g$ implies that φ is an automorphism. The first non-trivial example of a test element was given by Nielsen in 1918, when he proved that every endomorphism of a free group of rank 2 that fixes the commutator $[x_1, x_2]$ of a pair of generators must be an automorphism.

In this talk I will discuss the distribution of test elements in free groups and surface groups. This is a joint work with Slobodan Tanushevski.