Automorphisms of finite order and tame Galois descent of semi-affinoid curves

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In this talk, I will present some features of automorphisms of finite order of semi-affinoid curves – a special kind of nonarchimedean analytic spaces – motivated by two arithmetic problems.

In the first part, I will introduce a problem of Galois descent, asking to classify the forms of analytic discs and annuli under finite, tamely ramified, Galois extension. This problem is intimately related to semi-stable reduction, and the results I will presents are joint work with Lorenzo Fantini.

In the second part, I will talk about the role of automorphisms of semi-affinoid curves in the problem of lifting Galois covers of curves from characteristic p to characteristic zero.