

Compact analytic groups over pro- p domains of positive characteristic

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Abstract

While the theory of Lie groups is highly developed in characteristic 0, comparatively little is known about analytic groups over local fields of positive characteristic p . More generally, one can consider groups which are analytic over pro- p domains R , without restricting the Krull dimension to 1. Natural examples of such rings are power series rings over finite fields, e.g. $R = F_p[[t_1, \dots, t_m]]$.

In my talk I will address open problems regarding compact R -analytic groups where R is a pro- p domain of characteristic p . I will report on several structural results which hold in the special case where R has Krull dimension 1. The talk will be based on a joined paper with Andrei Jaikin-Zapirain [J. London Math. Soc. **76** (2007), 365–383].