

Salah Mohammad Memorial COLLOQUIUM SERIES

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Functions On a Covering for the P-adic Upper Half Plane

[ABSTRACT]

The Poincare upper half plane of complex numbers with positive imaginary part is an important source of representations of the group $SL(2, \mathbb{R})$ which acts on it by Moebius transformations. In the world of p-adic numbers there is a space which plays an analogous role, the so-called p-adic upper half plane. Interestingly, whereas the Poincare upper half plane is simply connected, the p-adic upper half plane carries a whole tower of equivariant covering spaces. In this talk I will first explain the geometry of one particular of these covering spaces, following work by J. Teitelbaum. Secondly, I will discuss a method for analyzing the space of functions on this covering as a representation. This is joint work with Deepam Patel and Tobias Schmidt.