The mod p cohomology of the Drinfeld tower

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Monday, March 31 at 4:15 pm
111 Cummington Mall, MCS B21
Tea and cookies in MCS 144 at 4 pm

Abstract: In the 80s, Carayol gave a conjecture about the ℓ-adic cohomology of Drinfeld upper half space. He was able to prove this conjecture for $\mathrm{GL}_2(\mathbb{Q}_p)$ by relating Drinfeld upper half space to Shimura curves. Recent progress in the p-adic Langlands program has suggested that one looks at the mod p cohomology instead of the ℓ-adic cohomology. In this talk, I will use the Drinfeld tower to construct a p-adic Jacquet-Langlands correspondence and show that it satisfies a local-global compatibility with the cohomology of Shimura curves.