

BOSTON UNIVERSITY NUMBER THEORY SEMINAR

On the mod p reduction of Fredholm determinants for modular forms

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Monday, Feb. 2 at 4:15 pm
111 Cummington Mall, MCS B21
Tea and cookies in MCS 144 at 3:45 pm

Abstract: Fix a prime p . In this talk, we will discuss the p -adic properties of the *coefficients* of the characteristic power series of U_p acting on spaces of overconvergent p -adic modular forms. These coefficients are, by a theorem of Coleman, power series in the weight variable over \mathbf{Z}_p . Our first goal will be to show that in tame level one, the simplest case, every coefficient is non-zero mod p and then to give some idea of the (finitely many) roots of each coefficient. The second goal will be to explain how the previous result fails in higher levels, along with possible salvages. This will include revisiting the tame level one case. The progress we've made gives examples of recent work being made elsewhere on the geometric structure of the eigencurve “near its boundary”. This is joint work with Rob Pollack.