

BOSTON UNIVERSITY NUMBER THEORY SEMINAR

# Slopes of modular forms and the Ghost conjecture

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Monday, November 21 at 4:15 pm  
111 Cummington Mall, MCS B21  
Tea and cookies in MCS 144 at 4:00 pm

**Abstract:** In this talk, I will report on an on-going joint work with Ruochuan Liu and Liang Xiao, on the study of the  $p$ -adic slopes of modular forms. Bergdall and Pollack constructed an explicit power series, called the ghost series, and they conjectured that in the  $\Gamma_0(N)$ -regular case, the Newton polygon of the ghost series coincides with the Newton polygon of the characteristic power series of the  $U_p$  operator on the  $p$ -adic overconvergent modular forms. In this talk, I will give another formulation of this conjecture by complete homology and give some estimate results on the Newton polygons. If time allows, I will talk about some applications of this conjecture.