ON THE GHOST CONJECTURE OF BERGDALL AND POLLACK, I

BIN ZHAO

This is the first talk in a two-part series on this theme. In this talk, we first review the ghost conjecture raised by Bergdall and Pollack on the computation of p-adic slopes of modular forms. Then for a fixed local reducible residual Galois representation $\bar\rho$, we formulate a local analogue of the ghost conjecture, called the local ghost conjecture, and explain its proof under certain genericity assumption on $\bar\rho$. I will also mention applications of the local ghost conjecture to several noted conjectures on p-adic slopes of modular forms, which inspire us to obtain the innovative ideas in the proof. This is a joint work with Ruochuan Liu, Nha Xuan Truong and Liang Xiao.