

SCMS Seminar



ON THE GHOST CONJECTURE OF BERGDALL AND POLLACK

Speaker: Professor Xiao, Liang

University of Connecticut

Time: 1:30-5:00 pm., Thursday, Jun 23, 2016

Venue: Room 2201, East Main Guanghua Tower, Handan Campus

Abstract: I will report on an on-going joint project with Ruochuan Liu and Bin Zhao, studying the p-adic slopes of modular forms. Recently, Bergdall and Pollack, based on computer calculation, raised a very interesting conjecture on the slopes of overconvergent modular forms, which asserts that the Newton polygons of the characteristic power series of U_p are the same as the Newton polygons of another explicit characteristic power series, which they call ghost series. This conjecture would imply many well-known conjectures regarding slopes of modular forms, like Gouvea's conjecture, Gouvea-Mazur conjecture, and etc. I will discuss a reformulation using completed homology, and give some theoretical evidence to this conjecture, and possibly some other applications of the conjecture.