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Characters in p -adic Vertex Operator Algebras

Vertex operator algebras (VOAs) play a central role in two-dimensional conformal field theory, however their number-theoretical properties have also garnered significant attention over the past two decades. In particular, a celebrated result of Zhu shows that the character map (i.e. 1-point correlation function or graded trace) on VOAs gives a surjection on the space of modular forms. In this talk, we will first give an introduction to these structures as well as their p -adic variants which were constructed recently by Franc and Mason. Then, we will discuss new results on the connections to p -adic modular forms, with the goal of establishing a Zhu-type theorem in this p -adic case.