

Speaker: Katrina Barron
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Thursday, February 28, 2008
1:00 pm
258 Hurley Hall

Title: Vertex operators and the basic representations of $\hat{\mathfrak{sl}}_2$ and $\tilde{\mathfrak{gl}}(\infty)$

Abstract:

We will “warm-up” by constructing the basic representation of $\hat{\mathfrak{sl}}_2 = \mathfrak{sl}_2 \otimes \mathbb{C}[t, t^{-1}] \oplus \mathbb{C}c$ via twisted vertex operators in $\text{End}(\mathbb{C}[x_1, x_3, x_5, \dots])$. We will then extend the principals used in the $\hat{\mathfrak{sl}}_2$ case to construct the basic representation of $\tilde{\mathfrak{gl}}(\infty) = \mathfrak{gl}(\infty) \oplus \mathbb{C}c$ on $\mathbb{C}[x_1, x_2, x_3, \dots]$. No prior (or future) understanding of vertex operators will be assumed.