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Gaywalee Kerman Yamskulna* (gyamsku@ilstu.edu), Department of Mathematics, Illinois State University, Normal, IL 61790-4520. *Rationality of the vertex algebra V_L^+ when L is a non-degenerate even lattice of arbitrary rank.*

In this talk, I will first discuss about one of the main conjectures in the theory of vertex algebras. Next, I will review the construction of the vertex algebras V_L^+ which are one of the most important classes of vertex algebras. They were originally introduced in the Frenkel-Lepowsky-Meurman construction of the moonshine module vertex algebra. Finally, I will discuss about the representation theory of the vertex algebra V_L^+ when L is a non-degenerate even lattice of arbitrary rank. (Received February 09, 2009)