1009-17-157 **Andrew R Linshaw*** (linshaw@brandeis.edu), 125 Jackson St, Newton, MA 02459. *Vertex algebras and invariant theory.*

For any vertex algebra V and any subalgebra $A \subset V$, there is a new subalgebra $Com(A, V)$ of V known as the *commutant* of A in V. This construction was introduced by Frenkel-Zhu in 1992, and is an abstraction of an earlier construction in conformal field theory due to Goddard-Kent-Olive and Kac-Peterson known as the coset construction. In this talk, I will interpret the commutant as a vertex algebra notion of *invariant theory*. I will discuss a certain commutant algebra which is a "chiralization" of the classical ring of invariant polynomial functions on a g-module M, where g is a finite-dimensional Lie algebra. (Received August 15, 2005)