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*Kazhdan–Lusztig’s tensor category and the compatibility condition.*

We study from the viewpoint of vertex operator algebras a braided tensor category of Kazhdan and Lusztig based on certain modules for an affine Lie algebra, by using a recent logarithmic generalization, due to Huang, Lepowsky and Zhang, of Huang and Lepowsky’s tensor product theory for modules for a vertex operator algebra. We first give an equivalent form of the “compatibility condition,” one of the important tools in the theory of Huang and Lepowsky, in terms of a “strong lower truncation condition.” We use this to establish the equivalence of the two tensor product functors constructed in the two totally different approaches. Then, by using certain generalized Knizhnik–Zamolodchikov equations, we prove the “convergence and expansion properties” for this category and obtain a new construction of the braided tensor category structure. In contrast to the original algebraic-geometric method, the vertex algebraic approach further establishes a vertex tensor category structure on this category. (Received August 16, 2005)