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Bojko Bakalov* (bojko_bakalov@ncsu.edu), Department of Mathematics, North Carolina State University, Raleigh, NC 27695. *Logarithmic vertex algebras*.

In logarithmic conformal field theory the operator product expansion (OPE) of quantum fields involves logarithms. I will introduce a notion of a logarithmic vertex algebra, which provides a rigorous algebraic formalism for studying such OPEs. I will derive a Borcherds identity for logarithmic vertex algebras and present the examples of free bosons and symplectic fermions. (Received January 14, 2017)