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Vertex algebras and vertex poisson algebras

In this talk, we shall review the definitions of vertex Lie algebras and vertex poisson algebras, which are “stringy” analogues of Lie algebras and poisson algebras while vertex algebras are “stringy” analogues of associative algebras. We shall introduce the notion of filtered vertex algebra and then associate a vertex poisson algebra to each filtered vertex algebra. We shall discuss how to determine and construct filtrations for a vertex operator algebra. At the end, we shall discuss formal deformation of vertex poisson algebras and present some basic results.