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Ben L. Cox* (coxbl@cofc.edu), Department of Mathematics, College of Charleston, 66 George St, Charleston, SC 29401, Vyacheslav Futorny, Universidade de Sao Paulo, Instituto de Matematica e Estatistica, Rua do Matao, 1010, Sao Paulo, Brazil, and Renato A. Martins, Universidade de Sao Paulo, Instituto de Matematica e Estatistica, Rua do Matao, 1010, Sao Paulo, Brazil. Virasoro action on Imaginary Verma modules and the operator form of the KZ-equation.

We define a Virasoro algebra action on imaginary Verma modules for affine $\mathfrak{sl}(2)$ and use it to construct an analogue of the Knizhnik-Zamolodchikov equation in the operator form. This action is not described in terms of Sugawara operators. Both these results are formed from a realization of imaginary Verma modules in terms of sums of partial differential operators. (Received August 26, 2012)