1126-16-136 **Natasha Rozhkovskaya*** (rozhkovs@math.ksu.edu), Manhattan, KS 66502. *Segal-Sugawara vectors for the Lie algebra of type G_2.*

The center of the affine vertex algebra $V_{crit}(\mathfrak{g})$ at the critical level of a simple Lie algebra $\mathfrak{g}$ is a commutative algebra whose structure was described by B.Feigin and E.Frenkel. Explicit formulas for Segal-Sugawara vectors associated with classical Lie algebras were found by A. Molev using the constructions of Schur-Weyl-duality. In this talk we report on the results on the explicit formulas for Segal-Sugawara vectors associated with the exceptional Lie algebra of type G_2, which is a joint work with A. I. Molev and E. Ragoucy. (Received January 09, 2017)