1081-51-226 **Roman M Fedorov*** (fedorov@math.ksu.edu), 138 Cardwell Hall, Mathematics Department, Kansas State University, Manhattan, KS 66502. *Irregular Knizhnik-Zamolodchikov-Bernard systems and the Casimir connection.*

I shall recall the notion of KZB connection on spaces of conformal blocks over moduli of curves with marked points. Then I shall introduce their irregular generalizations. The latter corresponds to non-highest weight representations of Kac-Moody algebras. I will show that some new directions arise in the irregular case an identify them in the simplest case with the Casimir connection on the regular part of a Cartan subalgebra of the corresponding finite-dimensional Lie algebra.

Time permits, I shall explain that the irregular KZB connection is a deformation of the irregular isomonodromic system. (Received February 12, 2012)