

In the construction of the well-known Knizhnik-Zamolodchikov equations the Casimir element of a Lie algebra plays a key role. This element is an element of the second order in the universal enveloping algebra. However in the universal enveloping there are other central elements of higher orders. In the case of the orthogonal algebra there exist higher central elements that look very much as the Casimir element of the second order. These are the Capelli elements.

As the Casimir element of the second order these elements are sums of squares of some elements of the universal enveloping algebra. More precisely, they are sums of squares of noncommutative pfaffians.

The first of our results is the following. In the case \mathfrak{o}_{2n+1} we obtain an integrable Pfaffian system of the Knizhnik-Zamolodchikov type whose construction is based on the Capelli element of the highest possible order. To obtain this result we need to investigate commutation relations between noncommutative pfaffians and their action in representations.

As it is known, the Knizhnik-Zamolodchikov equations are closely related to the isomonodromic deformations. The Schlesinger system is a classical limit of the Knizhnik-Zamolodchikov equations. The second of our results is an explicit description of isomonodromic deformations that are the classical limit of our Knizhnik-Zamolodchikov type system. This is a deformation of a Fuchsian system with very specific coefficients.