

Abstract

Let \mathcal{S}_n be the symmetric algebra of the Lie algebra gl_n of the matrices of size $n \times n$ over the field \mathbb{C} of complex numbers. For $\xi \in gl_n^*$ let \mathbf{A}_ξ be the *Mishchenko-Fomenko subalgebra* of \mathcal{S}_n constructed by the famous *argument shift method* associated with the parameter ξ . It is known that if ξ is a semisimple regular element or nilpotent regular element then the subalgebra \mathbf{A}_ξ is generated by a regular sequence in \mathcal{S}_n . In this seminar is proved that in gl_4 this result extends for all elements nilpotente.