IDEALS AND DERIVATIONS OF LIE ALGEBRA OF COLUMN-FINITE INFINITE MATRICES

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In our talk we give description of ideals of the Lie algebra of column-finite infinite matrices. As a a consequence, we obtain a two classes of uncountably dimensional simple Lie algebras. One of them was introduced in [1]–[2], the second one is new.

We discuss also the form of derivations of the above Lie algebra and some its subalgebras.

REFERENCES:

1. W. Hołubowski, *New simple Lie algebra of uncountable dimension.* Linear Algebra Appl. **492** (2016), 9–12.

1. W. Hołubowski and S. Żurek, *Note on simple Lie algebras of infinite matrices*, Silesian Journal of Pure and Applied Mathematics 6, (2016), 1, 23–26.

1. W. Hołubowski, I. Kashuba, and S. Żurek, *Derivations of the Lie algebra of infinite strictly upper triangular matrices over a commutative ring*, Comm. Algebra **45** (2017), 11, 4679—4685.