

THE DERIVED SERIES OF THE RIORDAN GROUP

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In this talk, we will describe the derived series of the Riordan group. We will show that the Ore property holds, that is, any element in the n -th derivative subgroup of the Riordan group is a commutator of elements in the $(n - 1)$ -derivative subgroup of the Riordan group.

To do this, the structure of inverse limit in the Riordan group developed in [1] will be needed.

In particular, finding the second derivative subgroup answers an open question proposed by L. Shapiro in 2001 in [2].

REFERENCES

- [1] A. Luzón, D. Merlini, M. Morón, L. F. Prieto-Martínez, R. Sprugnoli, *Some inverse limits approaches to the Riordan group*, Preprint.
- [2] L. Shapiro, *Some open questions about random walks, involutions, limiting distributions, and generating functions*, *Advances in Applied Mathematics* **27.2** (2001), 585–596.