

1145-22-1346

Manuel A. Morón* (mamoron@mat.ucm.es), Depto. Algebra, Geometria y Topologia, Facultad de Ciencias Matemáticas., Universidad Complutense de Madrid, 28040 Madrid, Madrid, Spain.
Characteristic curves for a family of linear PDEs and the exponential map in the Lie group of Riordan matrices.

In this talk, using [2], I am going to analyze the following consequence of Corollary 24 in [1].

If we are able to solve the associated linear problem (for example by the characteristic method) then we obtain the exponential matrix of the generator. On the opposite if we are able to compute the corresponding one-parameter group (and then the exponential) we will find the characteristic curves of the corresponding linear first order partial differential equation.

[1] G.-S. Cheon, A. Luzon, M. A. Moron, L. F. Prieto-Martinez and M. Song *Finite and infinite dimensional Lie group structures on Riordan groups*. Adv. Math. 319 (2017) 522-566.

[2] F. John. *Partial Differential Equations*. Applied Mathematical Sciences 1. Third Edition. Springer-Verlag. (1980.) (Received September 21, 2018)