

A Survey of the Riordan Group

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102 Bradley Hall, 4:00 pm
(Tea 3:30 pm Math Lounge)

Abstract

The Riordan group is a group of infinite lower triangular matrices of significant combinatorial interest. The name is in honor of John Riordan whose book, ‘Combinatorial Identities’ was in large part devoted to the inversion and classification of combinatorial identities. Though the basic ingredients are quite simple it leads to many results in a simple and unified manner. The kinds of results that we will talk about in this survey are proving combinatorial identities, inverting them, computing moments, random walks, and giving combinatorial interpretations to these matrices. If time permits we will look at subgroup structure, A and Z sequences, and some open problems.

This talk should be accessible to graduate students and a good bit of it to any undergraduate who knows something about matrices, groups, probability, and MacLaurin series.