



Seminario Rubio de Francia

Conferencia

por

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Título:

Random Walks, multiple orthogonal polynomials and Oscillatory banded Hessenberg matrices.

Abstract: Karlin and McGregor found a very nice connection between birth-and-death processes, random walks and orthogonal polynomials at the end of the 1950's. We extend this between certain random walks and multiple orthogonal polynomials. We find a Karlin-McGregor representation for the r -step transition probabilities in terms of multiple orthogonal polynomials of type I and type II. We illustrate these results by using Jacobi-Piñeiro multiple orthogonal polynomials. The large knowledge on the spectral and factorization properties of oscillatory and totally nonnegative matrices leads to a spectral Favard theorem for the class of the so called regular oscillatory banded Hessenberg matrices, so that bidiagonal positive factorization holds, in terms of sequences of multiple orthogonal polynomials of types II and I with respect to a set of positive Lebesgue-Stieltjes measures.

This is a joint work with Amílcar Branquinho, University of Coimbra and Manuel Mañas, University Complutense of Madrid.

Fecha: Jueves, 9 de junio de 2022.

Hora: 12:00 horas.

Webinar: <https://zoom.us/j/98185861481>

Web: <http://anamat.unizar.es/seminario.html>

<http://eventos.unizar.es/52859/detail/seminario-rubio-de-francia.html>