

SPECTRAL THEOREM FOR BOUNDED BANDED MATRICES WITH POSITIVE BIDIAGONAL FACTORIZATION

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A spectral Favard's theorem for bounded banded matrices that admit a positive bidiagonal factorization is found. The large knowledge on the spectral and factorization properties of oscillatory matrices leads to this spectral Favard theorem in terms of limit of sequences of discrete mixed multiple orthogonal polynomials. Also a multiple Gauss quadrature is proven and corresponding degrees of precision are found.

This talk is a joint work with Amílcar Branquinho and Manuel Mañas on the results obtained in [1].

References

- [1] A. Branquinho, A. Foulquié-Moreno, and M. Mañas. Spectral theory for bounded banded matrices with positive bidiagonal factorization and mixed multiple orthogonal polynomials. *Advances in Mathematics*, 434:109313, 2023.