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With the Chebyshev polynomials through geometric circulant matrices

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Abstract. We will present estimates for spectral norm bounds of the geometric circulant matrices whose entries are the Chebyshev polynomials of the first and the second kind. Some of the obtained results were verified by applying them to some known results on matrices involving various integer sequences, such as Fibonacci, Lucas, Pell and Jacobsthal integer sequences.

Keywords: Chebyshev polynomials, geometric circulant matrix, matrix norms

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