



**CHEBYCHEV POLYNOMIALS OF THE FIRST KIND
AND WHITTAKER'S CONSTANT**

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Abstract

In this paper, we provide the conditions required for the Chebychev polynomials of the first kind $\{T_n(z)\}_{n \geq 0}$ to be a basic set. Then, we prove that the domain of effectiveness is a unit disc $D(R) = (0, 1)$ related to the radius R of convergence of the associated basic series of $\{T_n(z)\}_{n \geq 0}$. We then give the Cannon condition satisfied by $\{T_n(z)\}_{n \geq 0}$ and the corresponding Whittaker's constant which is better than that obtained in the previous works using the Goncharov's polynomials. The order and type of the polynomials are also given.

Keywords and phrases: Chebychev polynomials of the first kind, Whittaker's constant.

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