

ON CAUCHY'S BOUND FOR ZEROS OF TRANSCENDENTAL  
ENTIRE FUNCTIONS

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(Received: Apr. 28, 2021 Accepted: Oct. 10, 2021 Published: Dec. 30, 2021)

**Abstract:** The prime concern of this paper is to derive bound for the moduli of the zeros of a transcendental entire function. A few examples are given here to validate the results obtained.

**Keywords and Phrases:** Transcendental entire function, Cauchy's bound, zero.

**2020 Mathematics Subject Classification:** 30D20, 30C10, 30C15, 30D10.

### 1. Introduction, Definitions and Notations

Fundamental theorem of algebra only gives information about the number of zeros of a polynomial but not location of the zeros. All zeros of a quadratic polynomial can be derived algebraically for all possible values of its coefficients. But, difficulty arises when degree of polynomial increases. So, it is desirable to know a region where the zeros of a polynomial lie.

Problem of finding a region containing all the zeros of a polynomial has a rich old history {cf.[7]}. In 1829, Cauchy {cf.[7]} develop the following classical result: