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Bohr's Radius for Polynomials in One Complex Variable

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Abstract. We consider complex polynomials of degree n that are bounded by one in the unit disc and give estimates on the size of the radius R_n of the disc where the sum of the moduli of the individual terms of the polynomial is less than one. We find that there are positive constants C_1, C_2 such that

$$C_1 \frac{1}{3^{n/2}} < R_n - \frac{1}{3} < C_2 \frac{\log n}{n}.$$

This result generalizes the celebrated theorem of Harald Bohr to polynomials of degree n .

Keywords. Bohr's Theorem.

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