journal of inequalities in pure and applied mathematics
issn: 1443-5756



Volume 6, Issue 2, Article 53

# Rate of Growth of Polynomials Not Vanishing Inside a Circle

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**Keywords:** Polynomials, Restricted zeros, Growth, Inequalities.

**Date Received:** 04/01/05

**Date Accepted:** 15/04/05

**Subject Codes:** 30A10, 30C10, 30E10, 30C15.

**Editors:** Ram N. Mohapatra,

**Abstract:** A well known result due to Ankeny and Rivlin [1] states that if $p(z) = \sum_{v=0}^{n} a_v z^v$ is a polynomial of degree $n$ satisfying $p(z) \neq 0$ for $|z| < 1$ then for $R \geq 1$

$$\max_{|z|=R} |p(z)| \leq \frac{R^n + 1}{2} \max_{|z|=1} |p(z)|.$$

It was proposed by late Professor R.P. Boas, Jr. to obtain an inequality analogous to this inequality for polynomials having no zeros in $|z| < K$, $K > 0$. In this paper, we obtain some results in this direction, by considering polynomials of the form $p(z) = a_0 + \sum_{v=t}^{n} a_v z^v$, $1 \leq t \leq n$ which have no zeros in $|z| < K$, $K \geq 1$.