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Gardner, Robert B. [Gardner, Robert Bentley] (1-ETNS);
Govil, N. K. [Govil, Narendra K.] (1-ABRN-MST)

Eneström-Kakeya theorem and some of its generalizations.

Current topics in pure and computational complex analysis, 171–199, *Trends Math.*, *Birkhäuser/Springer*, *New Delhi*, 2014.

C. F. Gauss [Abh. K. Ges. Wiss. Göttingen **4** (1848–1850), Math. Cl., 1–34] proved the following result concerning the location of the zeros of a polynomial of degree n:

If $p(z) = z^n + a_1 z^{n-1} + \cdots + a_n$ is a polynomial of degree n with real coefficients, then all the zeros of p lie in

$$|z| \leq R = \max_{1 \leq k \leq n} \{n\sqrt{2}|a_k|^{1/k}\}.$$

The authors of the paper under review proceed to give an historical review of results in this area. In particular, they follow the work concerning the Eneström-Kakeya theorem from the 1960s, 1970s and 1980s with a lengthy section on results of the 1990s. This paper contains a complete English translation of the historically important paper of G. Eneström [Tôhoku Math. J. **18** (1920), 34–36; JFM 47.0072.03] and an excellent bibliography for this paper and related results.

{For the collection containing this paper see MR3307641}

F. W. Hartmann