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**Angular Distribution of Zeros of the Partial Sums of  $e^z$  via the Solution of Inverse Logarithmic Potential Problem**

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**Abstract.** We continue the work of Szegő [18] on describing the angular distribution of the zeros of the normalized partial sum  $s_n(nz)$  of  $e^z$ , where  $s_n(z) := \sum_{k=0}^n z^k/k!$ . We imbed this problem in some inverse problem of potential theory and prove a so-called Erdős-Turán-type theorem, which is of interest in itself.

**Keywords.** Szegő curve, logarithmic potential, harmonic measure.

**2000 MSC.** Primary 30E10; Secondary 30C15, 31A15, 41A30.

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- [18] G. Szegő, Über eine Eigenschaft der Exponentialreihe, *Sitzungsber. Berl. Math. Ges.* **23** (1924), 50–64.