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A RELATION BETWEEN A THEOREM OF BOHR AND SIDON SETS

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1. **Introduction.** In 1913, Bohr [1] proved the following theorem for Dirichlet series: if

$$(1) \quad f(\sigma + it) = \sum_{n=1}^{\infty} c(n)n^{-\sigma-it}$$

and if $|f(\sigma + it)| \leq 1$ for all $\sigma > 0$, then

$$(2) \quad \sum_p |c(p)| \leq 1,$$

the sum in (2) extending over all primes.

A set of positive integers E will be called a *Bohr set* if there is a finite constant B such that for every function f as in (1)

$$(3) \quad \sum_{n \in E} |c(n)| \leq B.$$

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