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The convergence domain for series of exponential monomials. (Russian. English summary)

Zbl 1249.30005

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Summary: Questions of convergence for exponential series of monomials are studied in this paper. Exponential series, Dirichlet series and power series are particular cases of these series. The space of coefficients of exponential series of monomials converging in the given convex domain in a complex plane is described. The full analogue of Abel's theorem for these series is formulated with a natural restriction. In particular, results on continuation of convergence of exponential series follow from this analogue. A full analogue of the Cauchy-Hadamard theorem is obtained as well. It provides a formula for finding the convergence domain of these series by their coefficients. The obtained results include all earlier known results connected with Abel and Cauchy-Hadamards theorems for exponential series, Dirichlet series and power series as particular cases.

Reviewer: [Svetlana A. Grishina \(Ul'yanovsk\)](#)

MSC:

[30B50](#) Dirichlet series, exponential series and other series in one complex variable

Cited in **4** Documents

Keywords:

[exponential series](#); [convex domain of convergence](#); [analytic functions](#)