



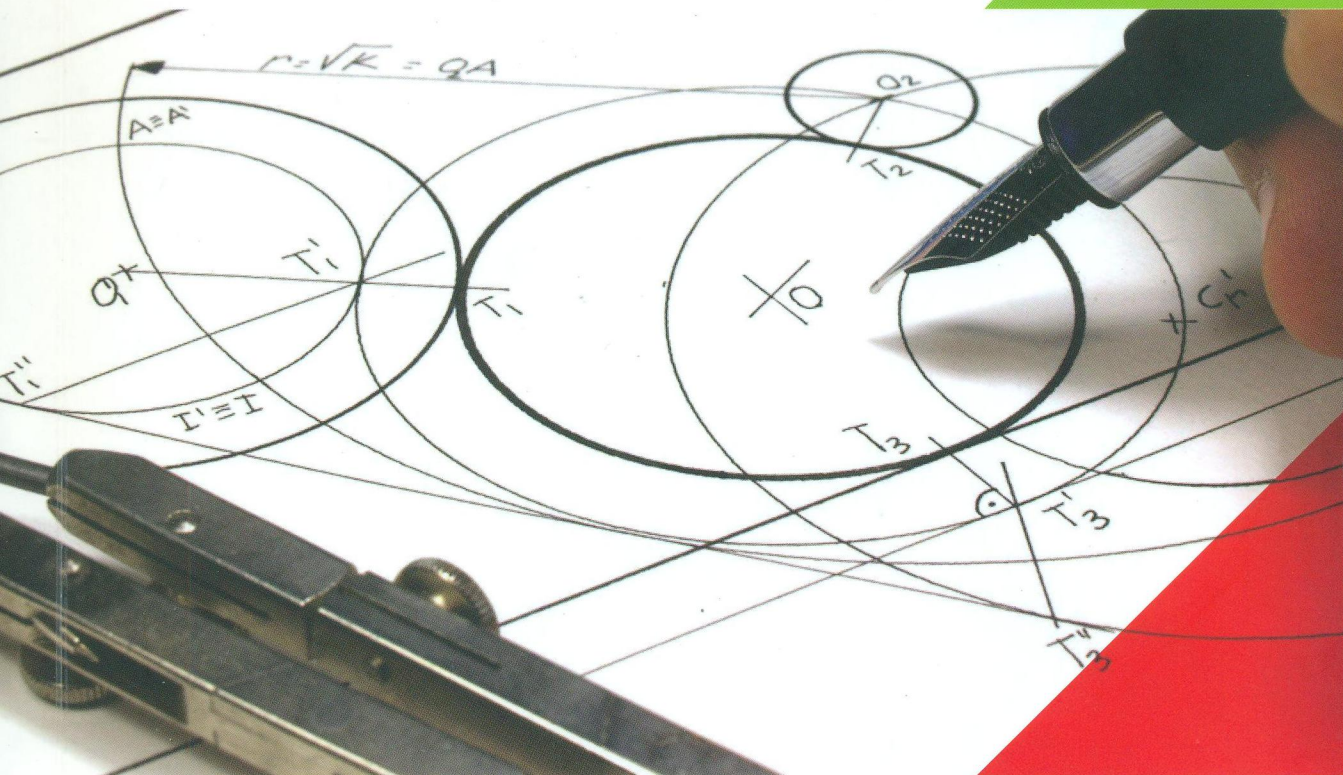
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ABU DHABI UNIVERSITY



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ABSTRACTS BOOK



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exponent Lebesgue spaces, especially in the complex plane are not investigated sufficiently wide. In this work we study the approximation properties of the partial sums of the Faber-Laurent series generated by a Dini-smooth Jordan curve and prove one direct theorem of approximation theory in the variable exponent Lebesgue spaces.

A Fictitious Region Approach to the System of Inhomogeneous Incompressible Fluid

A. Jaikbayev

Kazakh-British Technical University, 59, Tole bi Str. Almaty, Kazakhstan

Coauthors: S. Mukhambetzhanov, T. Kenzhebayev

Numerical modeling of the motion of inhomogeneous incompressible fluid in domains with complicated geometry or domains which consist of different sub-domains is related with difficulties. The main result of the present work is to give a substantiation for fictitious region method, which allows the flow computation to be done on a fixed domain which contains the initial domain. The theorem of existence of the solution of the new problem, set up in the fixed domain, which approximates the initial problem is established and convergence estimates are given as well.

The Application of Wavelet-Galerkin Methods for Solving the Problem of the Theory of Non-Equilibrium Filtration

Saule Janabekova

al-Farabi av. 71, al-Farabi Kazakh National University, Almaty, Kazakhstan

Coauthor: Z. Abdiakhmetova

The paper is about one mathematical model of phase transitions of a non-equilibrium filtration. Resolvability of the model considered and periodic solution on time are given. As a result of the limit transitions problems with free unknown boundaries were obtained. The results obtained can be applied