

[Lavrent'ev, M. A.](#)

Variational methods for boundary value problems for systems of elliptic equations. Authorized translation from the Russian by J. R. M. Radok. Unabridged, slightly corrected republ. of the work 1st publ. by P. Noordhoff, Ltd., 1963. (English) [Zbl 0743.35019](#)
[Dover Books on Advanced Mathematics](#). New York: Dover Publications, Inc. 153 p. (1989).

This Dover edition is an unabridged, slightly corrected republication of the authorized English version first published in 1963 ([Zbl 0121.06701](#)). In the Dover edition an Index is added. The work is concerned with variational principles in the theory of conformal and quasiconformal mappings, which are applied to hydrodynamic problems given in terms of linear or quasilinear, strongly elliptic systems of differential equations in two variables. For details and comments see the review of the Russian original (1962; [Zbl 0121.06602](#)).

Reviewer: [W.Velte \(Würzburg\)](#)

MSC:

- [35J20](#) Variational methods for second-order elliptic equations
- [35J65](#) Nonlinear boundary value problems for linear elliptic equations
- [35-02](#) Research exposition (monographs, survey articles) pertaining to partial differential equations
- [35J55](#) Systems of elliptic equations, boundary value problems (MSC2000)
- [49S05](#) Variational principles of physics
- [30C20](#) Conformal mappings of special domains
- [30C62](#) Quasiconformal mappings in the complex plane
- [76B99](#) Incompressible inviscid fluids

Keywords:

variational principles in the theory of conformal and quasiconformal mappings; linear or quasilinear strongly elliptic systems; differential equations in two variables