

Linear Differential Transformations of the Second Order

Translator's note

In: Otakar Borůvka (author); Felix M. Arscott (translator): Linear Differential Transformations of the Second Order. (Czech). London: The English Universities Press, Ltd., 1971. pp. VII–VIII.

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The greater part of this book, sections 1 to 27, was published in German in 1967 by VEB Deutscher Verlag Der Wissenschaften in Berlin, under the title *Lineare Differentialtransformationen 2. Ordnung*; for this edition, Professor Borůvka has contributed two further sections, 28 and 29, giving recent results in the field and bringing the work right up to date. The material in these two sections is published here for the first time.

In making the translation, a few minor changes of format have been effected. A decimal system of section and paragraph numbering has been adopted, so that sections run from 1 to 29 and paragraphs from 1.1 to 29.4. Formulae, however, are numbered consecutively within each section, paragraphs being ignored; thus the formulae in section 1 are numbered (1.1) to (1.23). Where reference is made to a formula in the same section, only the decimal part of the reference number is used.

I have followed the German text closely, and only in a few places, where the interwoven structure of the original did not go easily into English, have I rewritten any substantial portion. The only notational change has been the use of θ in place of ϑ for the polar function.

Many of the ideas and concepts in this book are sufficiently novel for the German technical terms not yet to have English equivalents which can be regarded as standard. I have therefore set out below a short glossary of such terms, with the translation here employed. On this, and on many other technical problems, I have had the inestimable benefit of the author's advice, help and encouragement. This translation is my tribute to the fine work both of Academician Otakar Borůvka himself and also of his co-workers in Czechoslovakia; it is made in the hope that thereby the work will be accessible to that wider circle of mathematical readers which its beauty and originality so richly deserve.

Finally, my warmest thanks are due to the three secretaries, Mrs. P. J. Goodwin and Mrs. J. Hoogendyck of the University of Surrey and Miss Marian Martin of the University of Calgary for their invaluable patience and skill in producing the typescript, and to my daughter, Miss Christine Arscott, for her assistance in transcribing formulae from the original text to this.

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Glossary

Art	kind
ausgezeichnet	singular
begleitend	associated
Büschel	bunch
Darstellung	representation
eigentlich	proper
Erzeugende	generator

Gattung	category
grund-	fundamental
Knotenpunkt	node
Repräsentant	representative
Träger	carrier
Transformierende	transforming function
Typus	type