

# Fundamentals of Convolutional Coding (IEEE Series on Digital & Mobile Communication)

By Rolf Johannesson, Kamil Sh. Zigangirov

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Convolutional codes, among the main error control codes, are routinely used in applications for mobile telephony, satellite communications, and voice-band modems. Written by two leading authorities in coding and information theory, this book brings you a clear and comprehensive discussion of the basic principles underlying convolutional coding. FUNDAMENTALS OF CONVOLUTIONAL CODING is unmatched in the field for its accessible analysis of the structural properties of convolutional encoders.

Other essentials covered in FUNDAMENTALS OF CONVOLUTIONAL CODING include:

- Distance properties of convolutional codes
- Viterbi, list, sequential, and iterative decoding
- Modulation codes
- Tables of good convolutional encoders
- An extensive set of homework problems

The authors draw on their own research and more than twenty years of teaching experience to present the fundamentals needed to understand the types of codes used in a variety of applications today. This book can be used as a textbook for graduate-level electrical engineering students. It will be of key interest to researchers and engineers of wireless and mobile communications, satellite communication, and data communication.

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From the Back Cover

Electrical Engineering / Fundamentals of Convolutional Coding A volume in the IEEE Press Series on Digital and Mobile Communication John B. Anderson, Series Editor

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- Plus an extensive set of homework problems

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# About the Author

**Rolf Johannesson** holds the Chair of Information Theory at Lund University, Sweden. He has written two textbooks on switching theory and digital design, as well as a textbook on information theory. Dr. Johannesson s research interests include information theory, error-correcting codes, and cryptography. He is a Fellow of the IEEE.

**Kamil Sh. Zigangirov** holds the Chair of Telecommunication Theory at Lund University, Sweden. He is widely published in the areas of information theory, coding theory, detection theory, and mathematical statistics. Dr. Zigangirov is the inventor of the stack algorithm for sequential decoding.

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