



Mathematics and Technology

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Monografía

Mathematics and Technology presents technological applications of mathematics making use of elegant mathematical concepts. The selected subjects consist of: public key cryptography, error correcting codes, the global positioning system (GPS) and cartography, image compression using fractals and the JPEG format, digital recording, robot movement, DNA computing, Google's PageRank algorithm, savings and loans, gamma ray surgery and random number generators. The authors highlight how mathematical modeling, together with the power of mathematical tools, have been crucial for innovation in technology. The exposition is clear, straightforward, motivated by excellent examples, and user-friendly. Numerous exercises at the end of every chapter reinforce the material. An engaging quality is the various historical notes accompanying the mathematical development. This book is intended mainly for undergraduate students in pure and applied mathematics, physics and computer science, instructors, and high school teachers. The main prerequisites are linear algebra and Euclidean geometry. A few chapters require multivariable calculus and elementary probability theory. A clear indication of the more difficult topics and relatively advanced references make it also suitable for an independent reader mastering the prerequisites

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