Linear Algebra and Geometry A I Kostrikin and Yu I Manin

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This advanced textbook on linear algebra and geometry covers a wide range of classical and modern topics. Differing from most existing textbooks in approach, the work illustrates the many-sided applications and connections of linear algebra with functional analysis, quantum mechanics, and algebraic and differential geometry. The subjects covered in some detail include normed linear spaces, functions of linear operators, the basic structures of quantum mechanics and an introduction to linear programming. Also discussed are Kahler's metric, the theory of Hilbert polynomials, and projective and affine geometries. Unusual in its extensive use of applications in physics to clarify each topic, this comprehensive volume will be of particular interest to advanced undergraduates and graduates in mathematics and physics, and to lecturers in linear and multilinear algebra, linear programming and quantum mechanics.

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