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Autore	Chaitin-Chatelin Francoise
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2265; 1; 2.2.4 Productive coupling of linear subspaces in Ak, k 2265; 4; 2.2.5 Other inductive multiplicative processes; 2.3 Properties of the multiplication; 2.3.1 The partition Ak = R1 2295; Ak, k 2265; 1; 2.3.2 The commutator for k 2265; 2; 2.3.3 The associator for k 2265; 3; 2.3.4 The four real division algebras; 2.3.5 The alternator for k 2265; 4; 2.3.6 The normalisatrix function for k 2265; 4
2.3.7 The subalgebra x generated by x 2208; A, x 02.4 Left and right multiplication maps; 2.4.1 Definition; 2.4.2 The real scalar product La, Lb F; 2.5 The partition Ak = C1 2295; Dk, k 2265; 2; 2.5.1 A characterization of C in Ak, k 2265; 4; 2.5.2 Algebraic computation in Dk, k 2265; 2; 2.5.3 The map La for a 2208; Dk; 2.5.4 The complex scalar product La,Lb F* for a 2208; Dk; 2.6 Alternative vectors in Ak for k 2265; 4; 2.6.1 Definition; 2.6.2 Colinearity of X and Y in Ak, k 2265; 4; 2.6.3 Characterization of alternativity for vectors inAk, k 2265; 4; 2.6.4 Alternative subspaces in Ak, k 2265; 4
2.9.4.3 The exponential of a product x D7; u in Ak, k 2265; 2

Sommario/riassunto

High technology industries are in desperate need for adequate tools to assess the validity of simulations produced by ever faster computers for perennial unstable problems. In order to meet these industrial expectations, applied mathematicians are facing a formidable challenge summarized by these words - nonlinearity and coupling. This book is unique as it proposes truly original solutions: (1) Using hypercomputation in quadratic algebras, as opposed to the traditional use of linear vector spaces in the 20th century; (2) complementing the classical linear logic by the complex logic which