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Chapter 3 The Effective Topos3.1 Recapitulation and arithmetic in ff; 3.1.1 Second-order arithmetic in ff; 3.1.2 Third-order arithmetic in ff; 3.2 Some special objects and arrows in ff; 3.2.1 Closed and dense subobjects; 3.2.2 Infinite coproducts and products; 3.2.3 Projective and internally projective objects, and choice principles; 3.2.4 ff as a universal construction; 3.2.5 Real numbers in ff; 3.2.6 Discrete and modest objects; 3.2.7 Decidable and semidecidable subobjects; 3.3 Some analysis in ff; 3.3.1 General facts about R; 3.3.2 Specker sequences and singular coverings

3.3.3 Real-valued functions3.4 Discrete families and Uniform maps; 3.4.1 Weakly complete internal categories in ff; 3.5 Set Theory in ff; 3.5.1 The McCarty model for IZF; 3.5.2 The Lubarsky-Streicher-Van den Berg model for CZF; 3.5.3 Well-founded trees and W-Types in ff; 3.6 Synthetic Domain Theory in ff; 3.6.1 Complete partial orders; 3.6.2 The synthetic approach; 3.6.3 Elements of Synthetic Domain Theory; 3.6.4 Models for SDT in ff; 3.7 Synthetic Computability Theory in ff; 3.8 General Comments about the Effective Topos; 3.8.1 Analogy between ▿ and the Yoneda embedding

3.8.2 Small dense subcategories in ff

Sommario/riassunto	Aimed at starting researchers in the field, Realizability gives a rigorous, yet reasonable introduction to the basic concepts of a field which has passed several successive phases of abstraction. Material from previously unpublished sources such as Ph.D. theses, unpublished papers, etc. has been molded into one comprehensive presentation of the subject area.- The first book to date on this subject area- Provides an clear introduction to Realizability with a comprehensive bibliography- Easy to read and mathematically rigorous- Written by an expert in the field