Record Nr. UNINA9910783117403321 Autore Gierz Gerhard Titolo Continuous lattices and domains / / G. Gierz [and others] [[electronic resource]] Cambridge:,: Cambridge University Press,, 2003 Pubbl/distr/stampa **ISBN** 1-107-13080-8 1-280-41832-X 9786610418329 0-511-17882-4 1-139-14721-8 0-511-06356-3 0-511-05723-7 0-511-30598-2 0-511-54272-0 0-511-07202-3 Descrizione fisica 1 online resource (xxxvi, 591 pages) : digital, PDF file(s) Collana Encyclopedia of mathematics and its applications : ; volume 93 Altri autori (Persone) GierzGerhard Disciplina 511.3/3 Soggetti Continuous lattices Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Title from publisher's bibliographic system (viewed on 05 Oct 2015). Nota di bibliografia Includes bibliographical references (p. 523-567) and index. Nota di contenuto Foreword to A Compendium of Continuous Lattices -- Introduction to A Compendium of Continuous Lattices -- A Primer on Ordered Sets and Lattices -- I. Order Theory of Domains -- II. The Scott Topology -- III. The Lawson Topology -- IV. Morphisms and Functors -- V. Spectral Theory of Continuous Lattices -- VI. Compact Posets and Semilattices -- VII. Topological Algebra and Lattice Theory: Applications --Dissertation and Master's Theses -- Memos Circulated in the Seminar on Continuity in Semilattices (SCS). Sommario/riassunto Information content and programming semantics are just two of the applications of the mathematical concepts of order, continuity and domains. The authors develop the mathematical foundations of partially ordered sets with completeness properties of various degrees,

in particular directed complete ordered sets and complete lattices.

Uniquely, they focus on partially ordered sets that have an extra order relation, modelling the notion that one element 'finitely approximates' another, something closely related to intrinsic topologies linking order and topology. Extensive use is made of topological ideas, both by defining useful topologies on the structures themselves and by developing close connections with numerous aspects of topology. The theory so developed not only has applications to computer science but also within mathematics to such areas as analysis, the spectral theory of algebras and the theory of computability. This authoritative, comprehensive account of the subject will be essential for all those working in the area.