

|                         |  |
|-------------------------|--|
| 1. Record Nr.           | UNINA9910952320203321  |
| Autore                  | Knauer Ulrich <1942->  |
| Titolo                  | Algebraic graph theory : morphisms, monoids, and matrices // by Ulrich Knauer  |
| Pubbl/distr/stampa      | Berlin ; ; Boston, : De Gruyter, c2011   |
| ISBN                    | 9786613400444<br>9781283400442<br>1283400448<br>9783110255096<br>311025509X  |
| Edizione                | [1st ed.]  |
| Descrizione fisica      | 1 online resource (324 p.)   |
| Collana                 | De Gruyter studies in mathematics ; ; 41   |
| Classificazione         | SK 890   |
| Disciplina              | 511/.5<br>511.5  |
| Soggetti                | Graph theory<br>Algebraic topology   |
| Lingua di pubblicazione | Inglese  |
| Formato                 | Materiale a stampa   |
| Livello bibliografico   | Monografia   |
| Note generali           | Description based upon print version of record.  |
| Nota di bibliografia    | Includes bibliographical references and index.   |
| Nota di contenuto       | Frontmatter -- Preface -- Contents -- Chapter 1. Directed and undirected graphs -- Chapter 2. Graphs and matrices -- Chapter 3. Categories and functors -- Chapter 4. Binary graph operations -- Chapter 5. Line graph and other unary graph operations -- Chapter 6. Graphs and vector spaces -- Chapter 7. Graphs, groups and monoids -- Chapter 8. The characteristic polynomial of graphs -- Chapter 9. Graphs and monoids -- Chapter 10. Compositions, unretractivities and monoids -- Chapter 11. Cayley graphs of semigroups -- Chapter 12. Vertex transitive Cayley graphs -- Chapter 13. Embeddings of Cayley graphs - genus of semigroups -- Bibliography -- Index -- Index of symbols |
| Sommario/riassunto      | Graph models are extremely useful for almost all applications and applicators as they play an important role as structuring tools. They allow to model net structures - like roads, computers, telephones - instances of abstract data structures - like lists, stacks, trees - and functional or object oriented programming. In turn, graphs are models for mathematical objects, like categories and functors. This highly self-  |

contained book about algebraic graph theory is written with a view to keep the lively and unconventional atmosphere of a spoken text to communicate the enthusiasm the author feels about this subject. The focus is on homomorphisms and endomorphisms, matrices and eigenvalues. It ends with a challenging chapter on the topological question of embeddability of Cayley graphs on surfaces.

---