

| | |
|-------------------------|---|
| 1. Record Nr. | UNINA9910346718203321 |
| Autore | Barth Christian |
| Titolo | High temperature superconductor cable concepts for fusion magnets / / Christian Barth |
| Pubbl/distr/stampa | Karlsruhe, Germany : , : KIT Scientific Publishing, , [2013] ©2013 |
| ISBN | 1000035747 |
| Descrizione fisica | 1 electronic resource (IX, 232 p. p.) |
| Collana | Karlsruher Schriftenreihe zur Supraleitung / Hrsg. Prof. Dr.-Ing. M. Noe, Prof. Dr. rer. nat. M. Siegel |
| Disciplina | 537.623 |
| Soggetti | High temperature superconductors Superconducting magnets |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | 1 Introduction and motivation -- 2 Superconductors -- 3 Superconducting fusion magnets -- 4 Materials of high temperature superconductor cables -- 5 Roebel Assembled Coated Conductor (RACC) cables -- 6 High temperature superconductor fusion magnet cable concepts -- 7 Summary -- A Annex -- B Designations and abbreviations -- C Index of symbols -- D Bibliography. |
| Sommario/riassunto | Three concepts of high temperature superconductor cables carrying kA currents (RACC, CORC and TSTC) are investigated, optimized and evaluated in the scope of their applicability as conductor in fusion magnets. The magnetic field and temperature dependence of the cables is measured; the thermal expansion and conductivity of structure, insulation and filling materials are investigated. High temperature superconductor winding packs for fusion magnets are calculated and compared with corresponding low temperature superconductor cases. |