

1. Record Nr.	UNINA9910158982303321
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Titolo	Factorization algebras in quantum field theory . Volume 1 / / Kevin Costello, Perimeter Institute for Theoretical Physics, Waterloo, Ontario, Owen Gwilliam, Max Planck Institute for Mathematics, Bonn
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2017
ISBN	1-316-73209-6 1-316-73016-6 1-316-74367-5 1-316-67862-8 1-316-74560-0 1-316-74753-0 1-316-75332-8
Descrizione fisica	1 online resource (ix, 387 pages) : digital, PDF file(s)
Collana	New mathematical monographs ; ; 31
Disciplina	530.14/30151272
Soggetti	Quantum field theory - Mathematics Factorization (Mathematics) Factors (Algebra) Geometric quantization Noncommutative algebras
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 31 Jan 2017).
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	From Gaussian measures to factorization algebras -- Prefactorization algebras and basic examples -- Free field theories -- Holomorphic field theories and vertex algebras -- Factorization algebras: definitions and constructions -- Formal aspects of factorization algebras -- Factorization algebras: examples.
Sommario/riassunto	Factorization algebras are local-to-global objects that play a role in classical and quantum field theory which is similar to the role of sheaves in geometry: they conveniently organize complicated information. Their local structure encompasses examples like associative and vertex algebras; in these examples, their global structure encompasses Hochschild homology and conformal blocks. In

in this first volume, the authors develop the theory of factorization algebras in depth, but with a focus upon examples exhibiting their use in field theory, such as the recovery of a vertex algebra from a chiral conformal field theory and a quantum group from Abelian Chern-Simons theory. Expositions of the relevant background in homological algebra, sheaves and functional analysis are also included, thus making this book ideal for researchers and graduates working at the interface between mathematics and physics.

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