

1. Record Nr.	UNINA9910337877903321
Autore	Lauria Edoardo
Titolo	Points, Lines, and Surfaces at Criticality // by Edoardo Lauria
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-030-25730-4
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (173 pages)
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053
Disciplina	515.9 517.5
Soggetti	Quantum field theory String theory Condensed matter Mathematical physics Quantum Field Theories, String Theory Condensed Matter Physics Mathematical Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Quantum Field Theories -- Conformal Field Theories -- Defects in Conformal Field Theories -- An Étude on $N = 2$ Conformal Manifolds in 3d -- Superconformal Blocks for SCFTs with Eight Supercharges -- Conclusion.
Sommario/riassunto	This thesis offers a fascinating journey through various non-perturbative aspects of Conformal Theories, in particular focusing on the Conformal Bootstrap Programme and its extensions to theories with various degrees of symmetry. Because of the preeminent role of Conformal Theories in Nature, as well as the great generality of the results here obtained, this analysis directly applies to many different areas of research. The content of this thesis is certainly relevant for the physics community as a whole and this relevance is well motivated and discussed along the various chapters of this work. The work is self-contained and starts with an original introduction to conformal theories, defects in such theories and how they lead to constraints on

data and an extension of the bootstrap programme. This situation is often realized by critical systems with impurities, topological insulators, or -in the high-energy context- by Wilson and 't Hooft operators. The thesis continues with original research results of the author, including supersymmetric extensions. These results may be relevant non only in the high energy physics context - where supersymmetry is required for the theory to be consistent - but also for condensed matter systems that enjoy supersymmetry emergence at long distances.
