

Contents

A Derived and Homotopical View on Field Theories	1
Damien Calaque	
 Part I Locality in Perturbative QFTs	
Perturbative Algebraic Quantum Field Theory	17
Klaus Fredenhagen and Katarzyna Rejzner	
Lectures on Mathematical Aspects of (twisted) Supersymmetric Gauge Theories	57
Kevin Costello and Claudia Scheimbauer	
Snapshots of Conformal Field Theory.	89
Karin Wendland	
 Part II Chern–Simons Theory	
Faddeev’s Quantum Dilogarithm and State-Integrals on Shaped Triangulations	133
Jørgen Ellegaard Andersen and Rinat Kashaev	
A Higher Stacky Perspective on Chern–Simons Theory.	153
Domenico Fiorenza, Hisham Sati and Urs Schreiber	
Factorization Homology in 3-Dimensional Topology	213
Nikita Markarian and Hiro Lee Tanaka	

Deligne-Beilinson Cohomology in U(1) Chern-Simons Theories	233
Frank Thuillier	

Part III (Semi-)Classical Field Theories

Semiclassical Quantization of Classical Field Theories	275
Alberto S. Cattaneo, Pavel Mnev and Nicolai Reshetikhin	

Local BRST Cohomology for AKSZ Field Theories: A Global Approach	325
Giuseppe Bonavolontà and Alexei Kotov	

Symplectic and Poisson Geometry of the Moduli Spaces of Flat Connections Over Quilted Surfaces	343
David Li-Bland and Pavol Ševera	

Groupoids, Frobenius Algebras and Poisson Sigma Models	413
Ivan Contreras	

Part IV Algebraic Aspects of Locality

Notes on Factorization Algebras, Factorization Homology and Applications	429
Grégory Ginot	

Index	553
------------------------	------------

Mathematical Aspects of Quantum Field Theories

Calaque, D.; Strobl, Th. (Eds.)

2015, XXVIII, 556 p. 145 illus., 26 illus. in color.,

Hardcover

ISBN: 978-3-319-09948-4