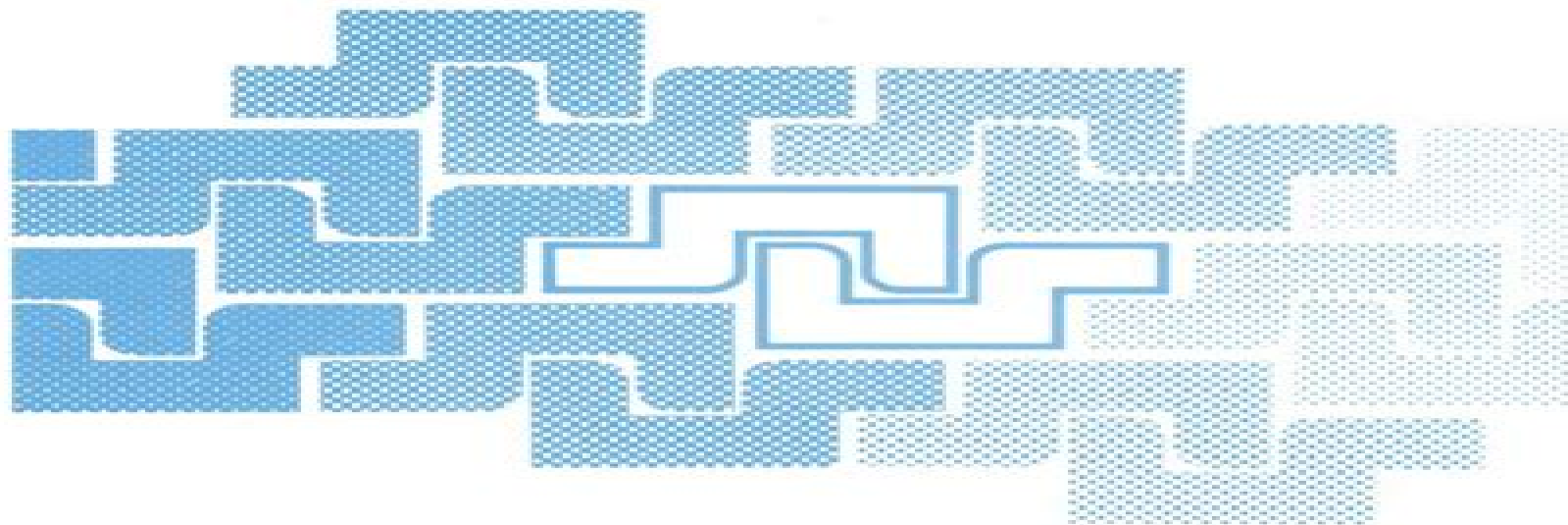




Random Surfaces and Quantum Gravity

Edited by
Orlando Alvarez
Enzo Marinari and
Paul Windey

NATO ASI Series

Series B: Physics Vol. 262

Random Surfaces And Quantum Gravity

Jan Ambjørn



Random Surfaces And Quantum Gravity:

Random Surfaces and Quantum Gravity Orlando Alvarez, Enzo Marinari, Paul Windey, 2013-03-09 The Cargese Workshop Random Surfaces and Quantum Gravity was held from May 27 to June 2 1990 Little was known about string theory in the non perturbative regime before October 1989 when non perturbative equations for the string partition functions were found by using methods based on the random triangulations of surfaces This set of methods provides a description of non critical string theory or equivalently of the coupling of matter fields to quantum gravity in two dimensions The Cargese meeting was very successful in that it provided the first opportunity to gather most of the active workers in the field for a full week of lectures and extensive informal discussions about these exciting new developments The main results were reviewed recent advances were explained new results and conjectures which appear for the first time in these proceedings were presented and discussed Among the most important topics discussed at the workshop were The relation of KdV theory to loop equations and the Virasoro algebra new results in Liouville field theory effective 1+1 dimensional theory for 2D quantum gravity coupled to $c=1$ matter and its fermionization proposal for a new geometrical interpretation of the string equation and possible definition of quantum Riemann surfaces discussion of the string equation for the multi matrix models links with topological field theories of gravity issues in using target space supersymmetry to define good theories definition of the partition function via analytic continuation new models of random surfaces

Two Dimensional Quantum Gravity And Random Surfaces - 8th Jerusalem Winter School For Theoretical Physics David J Gross, Tsvi Piran, Steven Weinberg, 1991-12-17 In the past few years there has been much study of random two dimensional surfaces These provide simple models of string theories with a few degrees of freedom as well as toy models of quantum gravity They have possible applications to the statistical mechanics of phase boundaries and to the development of an effective string description of QCD Recently methods have been developed to treat these theories nonperturbatively based on discrete triangulations of the surfaces that can be generated by simple matrix models Exact solutions with a rich mathematical structure have emerged All these matters are discussed fully in this book

Random Surfaces and 2D Quantum Gravity Spain) Workshop on Random Surfaces and 2D Quantum Gravity (1991 : Barcelona, 1992

Two Dimensional Quantum Gravity and Random Surfaces David Gross, Tsvi Piran, Steven Weinberg, 1992

Random Surface Interpretations of Two-dimensional Liouville Quantum Gravity and Yang-Mills Theory Minjae Park (Scientist in mathematics), 2022 The theory of random surfaces or sums over surfaces has its historical roots in quantum gravity string theory statistical physics and combinatorics This thesis explores random surfaces in two settings one related to Liouville quantum gravity and one related to Euclidean Yang Mills theory in two dimensions The first part introduces a specific regularization of Liouville quantum gravity surfaces It also establishes the Polyakov Alvarez formula on non smooth surfaces with Brownian loops instead of the zeta regularized Laplacian determinant Consequently weighting by a Brownian loop soup changes the so called central charge of the regularized random surfaces as expected in

physic literature This result justifies a definition of Liouville quantum gravity surfaces in the supercritical regime where the central charge is greater than 1 The second part describes continuum Wilson loop expectations on the plane as sums over surfaces an example of gauge string duality In contrast to the Gross Taylor expansion our weight is explicit as N^{χ} where χ is the Euler characteristic for any gauge group $U(N)$, $SO(N)$, $Sp(N)$ Based on the well established continuum theory in two dimensions we provide a probabilistic treatment for Wilson loop expectations also leading to various applications like an alternative proof for the Makeenko Migdal equation and a connection with a random walk on permutations

Random Surfaces and 2D Quantum Gravity : Proceedings of the Workshop, 1991, Barcelona, Spain J....[et al] Ambjørn,1992

Random Walks, Critical Phenomena, and Triviality in Quantum Field Theory Roberto Fernandez,Jürg Fröhlich,Alan D. Sokal,2013-03-14 Simple random walks or equivalently sums of independent random variables have long been a standard topic of probability theory and mathematical physics In the 1950s non Markovian random walk models such as the self avoiding walk were introduced into theoretical polymer physics and gradually came to serve as a paradigm for the general theory of critical phenomena In the past decade random walk expansions have evolved into an important tool for the rigorous analysis of critical phenomena in classical spin systems and of the continuum limit in quantum field theory Among the results obtained by random walk methods are the proof of triviality of the CP_4 quantum field theory in space time dimension $d = 4$ and the proof of mean field critical behavior for CP_4 and Ising models in space dimension $d = 4$ The principal goal of the present monograph is to present a detailed review of these developments It is supplemented by a brief excursion to the theory of random surfaces and various applications thereof This book has grown out of research carried out by the authors mainly from 1982 until the middle of 1985 Our original intention was to write a research paper However the writing of such a paper turned out to be a very slow process partly because of our geographical separation partly because each of us was involved in other projects that may have appeared more urgent

Regularized Quantum Gravity and String Theory J. (Kbh. Univ. Niels Bohr Institutet) Ambjørn,1991

Random Surfaces Martin Guy Harris,1994

Random Surfaces and 2D Quantum Gravity Jan Ambjørn,1992

Random Surfaces And Quantum Gravity: Bestsellers in 2023 The year 2023 has witnessed a noteworthy surge in literary brilliance, with numerous captivating novels enthralling the hearts of readers worldwide. Lets delve into the realm of top-selling books, exploring the captivating narratives that have enthralled audiences this year. Random Surfaces And Quantum Gravity : Colleen Hoover's "It Ends with Us" This touching tale of love, loss, and resilience has captivated readers with its raw and emotional exploration of domestic abuse. Hoover skillfully weaves a story of hope and healing, reminding us that even in the darkest of times, the human spirit can triumph. Uncover the Best : Taylor Jenkins Reids "The Seven Husbands of Evelyn Hugo" This captivating historical fiction novel unravels the life of Evelyn Hugo, a Hollywood icon who defies expectations and societal norms to pursue her dreams. Reids absorbing storytelling and compelling characters transport readers to a bygone era, immersing them in a world of glamour, ambition, and self-discovery. Discover the Magic : Delia Owens "Where the Crawdads Sing" This captivating coming-of-age story follows Kya Clark, a young woman who grows up alone in the marshes of North Carolina. Owens crafts a tale of resilience, survival, and the transformative power of nature, captivating readers with its evocative prose and mesmerizing setting. These top-selling novels represent just a fraction of the literary treasures that have emerged in 2023. Whether you seek tales of romance, adventure, or personal growth, the world of literature offers an abundance of captivating stories waiting to be discovered. The novel begins with Richard Papen, a bright but troubled young man, arriving at Hampden College. Richard is immediately drawn to the group of students who call themselves the Classics Club. The club is led by Henry Winter, a brilliant and charismatic young man. Henry is obsessed with Greek mythology and philosophy, and he quickly draws Richard into his world. The other members of the Classics Club are equally as fascinating. Bunny Corcoran is a wealthy and spoiled young man who is always looking for a good time. Charles Tavis is a quiet and reserved young man who is deeply in love with Henry. Camilla Macaulay is a beautiful and intelligent young woman who is drawn to the power and danger of the Classics Club. The students are all deeply in love with Morrow, and they are willing to do anything to please him. Morrow is a complex and mysterious figure, and he seems to be manipulating the students for his own purposes. As the students become more involved with Morrow, they begin to commit increasingly dangerous acts. The Secret History is a masterful and thrilling novel that will keep you guessing until the very end. The novel is a cautionary tale about the dangers of obsession and the power of evil.

<https://pinsupreme.com/data/detail/default.aspx/Perception%20Of%20Natural%20Events%20By%20Human%20Ob.pdf>

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