

Costas Bachas
On Rational extensions of duality groups

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Arthur Bartels
Defects between nets I

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David Bücher
Topological defects in perturbed CFTs

We consider topological defects in a 2d CFT and perturb them by a linear combination of chiral and anti-chiral defect fields. A condition is given which guarantees such a perturbed defect to be topological in a perturbation of the CFT. For CFTs resulting from the Fuchs-Runkel-Schweigert construction we indicate how this condition relates to the double construction of quantum groups and to the Bazhanov-Lukyanov-Zamolodchikov construction of an integrable structure.

Jens Fjelstad
Factorization & fundamental correlators in RCFT with defects

Conventional correlators in RCFT satisfy certain factorization properties. From these can be deduced a finite set of genus 0 world sheets whose correlators determine the full open/closed CFT. I will discuss how these factorization properties generalize when world sheets are allowed to contain topological defect lines, and how additional properties allow the identification of a set of fundamental world sheets, whose correlators determine the full open/closed CFT with defect lines.

Krzysztof Gawedzki
From gerbes to defects with some side steps

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André Henriques
Defects between nets II

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Sebastian Novak
2d Spin TFTs from defect TFTs

I will present a lattice construction for 2d Spin TFTs. This will be interpreted as representing the spin structure on a surface via a defect network. It will be shown how this presentation of the spin structure can be used to get spin field theories from field theories with a particular set of defects.

Dmitri Pavlov
Two-dimensional Yang-Mills theory and equivariant TMF

We construct examples of functorial field theories that are both fully local (i.e., go all the way down to points) and nontopological (i.e., depend on the underlying geometry of bordisms, e.g., the volume form or the metric). The significance of such examples comes from the fact that all known examples of two-dimensional field theories that are written down in any considerable detail are either nonlocal (e.g., constructions of Segal and Pickrell) or topological (e.g., all examples related to the cobordism hypothesis). Secondly, the Stolz-Teichner program implies that such field theories give classes in the equivariant version of TMF (topological modular forms). Thus we obtain the first explicit examples of non-trivial (equivariant) elliptic objects.

Daniel Plencner

Generalized orbifolds of Landau-Ginzburg models

Orbifolding a 2-dimensional quantum field theory by a symmetry group admits an elegant description in terms of defect lines and their junction fields. This perspective offers a natural generalization of the concept of an orbifold. In this talk I will focus on the case of Landau-Ginzburg models. After a review of the description of defects in terms of matrix factorizations, I will discuss bulk-boundary correlators in LG orbifolds and give a simple proof of the Cardy condition.

Thomas Quella

Symmetry breaking defects in conformal field theory - An overview

We discuss various approaches to the construction of conformal defects between two CFTs. Our particular attention rests on cases where the two CFTs have different chiral algebras and, possibly, even different central charge. In the first part of the talk, conformal boundary states are presented which arise from a nested coset construction. We also discuss approaches which aim at maximizing the transmission between the two adjacent CFTs, e.g. between two Virasoro minimal models at different central charge or two WZW models based on the same group but at different values of their level. While a Lagrangian description for the corresponding WZW defects is readily available, an algebraic treatment is still missing. Starting from a symmetric situation and triggering a bulk RG flow on one half of the system may provide a route to cure this unsatisfactory situation.

Rafał Suszek

Defects, gerbes and the gauge anomaly

The Gauge Principle for the multi-phase two-dimensional non-linear sigma model will be discussed from the vantage point of the model's lagrangean formulation. The role of the 2-category of equivariant gerbes over the target space of the field theory in the construction of the gauged sigma model will be emphasised, and an interpretation of the gauge anomaly in terms of an obstruction to the existence of topological defect networks implementing the gauge symmetry will be given.

Clément Tauber

Global gauge anomalies in coset models of conformal field theory

Global gauge anomalies obstruct the invariance of gauged Wess-Zumino-Witten models, that represent coset models of two-dimensional conformal field theory, under “large” gauge transformations which are not homotopic to unity. We shall describe a complete classification of the non-anomalous theories for a wide family of gauged rigid adjoint or twisted adjoint symmetries. Our classification is based on Dynkin’s classification of Lie subalgebras of simple Lie algebra.

Alessandro Valentino

Boundary conditions for 3d TFTs and Module Categories

In this talk I will discuss some aspects of boundary conditions for a 3d TFT of Reshetikhin-Turaev type, and their description in terms of module categories.

Gérard Watts

Defect scaling Lee-Yang model from the perturbed defect CFT point of view

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