

## NEW PERSPECTIVES IN CONFORMAL FIELD THEORY AND GRAVITY

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## Line defects in $O(N)$ and Yukawa CFTs

*Thursday 28 September 2023 14:44 (18 minutes)*

Line defects are an example of extended objects in QFTs and CFTs, describing a plethora of interesting physics such as magnetic impurities, Wilson lines, and brane physics. They provide access to new observables and conformal data, and are important in the study of confinement and generalized symmetries.

I will discuss recent work in which we explore conformal line defects, preserving one-dimensional conformal symmetry on the defect. Using the epsilon expansion and the numerical conformal bootstrap in a complementary way allows us to study several types of conformal line defects. In particular, we focus on a localized magnetic field line defect in the  $O(N)$  CFTs and the Yukawa CFTs, which can be captured in a single framework. Using the numerical bootstrap, we found a series of intriguing cusps which we will further investigate.

### Summary

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**Session Classification:** Parallel Session Thursday: Strings / Mathematical Physics I

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