



ID de Contribution: 103

Type: **Lecture / lecture series**

Extremal flows for the non-positive bootstrap?

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CFT correlators such as in the 3d Ising model, which saturate bootstrap bounds, must have a sparse spectrum of operators. We show that sparsity translates into tight constraints which allow us to bootstrap solutions to (truncated) crossing equations directly, bypassing the traditional numerical bootstrap approach based on optimization and positivity.

In practice these constraints amount to a certain modification of the so-called Gliozzi method and they can in principle be also used to bootstrap non-unitary CFTs or solutions to crossing equations without positivity, as can be shown in concrete albeit simple examples. We discuss the prospects and difficulties for doing this more systematically using two approaches:

1. Flowing from unitary to non-unitary solutions by continuous changes in some parameter such as the N in $O(N)$ or the spacetime dimension.
2. Directly solving multiple non-linear equations in several variables.

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Classification de thématique: 4. Non-unitary bootstrap methods