THE HOLOGRAPHIC HADAMARD CONDITION ON ASYMPTOTICALLY ADS SPACETIMES

by

Michał Wrochna

Presently, one of the key difficulties in the formulation of QFT on spacetimes that are not globally hyperbolic is the lack of a good substitute of the celebrated Hadamard condition. In settings with a time-like boundary, while it is possible to consider a direct analogue of the Hadamard condition away from the boundary, this does not suffice in applications in holography. A further problem with this idea is that singularities can propagate to the bulk from the boundary, where no control on the regularity is assumed. In this talk, I will focus on asymptotically Anti-de Sitter spacetimes and show that by considering a "holographic Hadamard condition" instead, one can overcome those difficulties and set up a consistent framework for non-interacting scalar quantum fields in the bulk and for the induced conformal fields on the boundary.

ENS DE LYON FST Lyon 1 Math MILYON UNIVERSITE DE LYON