

Institut Ruđer Bošković
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SEMINAR ZAVODA ZA TEORIJSKU FIZIKU
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Zavoda za eksperimentalnu fiziku IRB-a i Fizičkog odsjeka PMF-a)

A solvable QFT in 4 dimensions and my interactions with "Jurko" Glaser

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Abstract:

I first remark on the time I spent at CERN and my interactions with Glaser, from whom I learnt a lot about 2 D solvable QFT models. Afterwards I review my common work with Raimar Wulkenhaar on 4 D models: The regularisation of a scalar field on Moyal space leads to a matrix model. All correlation functions obey solvable singular integral equations (which I learnt to treat from Glaser). The two point function is solved by a NONLINEAR integral equation. We obtained a 4 D QFT, which satisfies growth property, covariance and symmetry. We discuss the evidence for reflection positivity for the 2-point function, for a certain range of the coupling constant.

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