

SEMPARIS – Séminaires en région parisienne

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Séminaire commun LPTENS/LPTHE

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Domaines : hep-lat—hep-th

Titre : *Lattice field theory with worldlines and worldsheets*

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Résumé : *Path integrals for quantum field theories are usually defined in terms of field variables. When discretized on the lattice the partition sum can be mapped exactly to new variables, which are worldlines for matter and worldsheets for the gauge degrees of freedom. We illustrate this mapping for some examples and discuss various aspects of the new formulation. In particular the worldline/worldsheet approach can be used to solve some complex action problems, such that numerical simulations are possible also at finite chemical potential or in the presence of topological terms.*
