

Quantum field theory in two dimensions: light-front versus space-like solutions

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We develop further aspects of the recently established light-front quantization of the two-dimensional massless fields. The topics include a detailed study of the light-front bosonization, complete operator solutions of the Thirring and Thirring-Wess models with a computation of their non-perturbative correlation functions and a comparison with the corresponding solutions in the conventional (space-like) theory. In the latter, the physical vacuum has to be constructed to have the equally complete formulation. The consistency and simplicity of the light-front treatment is then demonstrated within the field of conformal symmetry including the light-front version of the Virasoro algebra.