

# Massless quantum field theory in $1 + 1$ dimension

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## **Abstract**

It is usually stated that massless fields in  $1 + 1$  dimension do not exist unless one introduces indefinite scalar product. This is not correct: one can construct a physically reasonable quantum field theory in  $1 + 1$  dimension in a positive definite Hilbert space, if one is willing to go slightly outside of the Wightman axioms.