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What does one mean by analytic continuation of co-ordinates or maps. ?

What is Fourier transform ?
Why e^{ikx} and not a general function ? $f(t,x)$. ? ?

Why not,
$\phi(t,x) = \int_\eta f(t,x,\xi,\eta)\, a\, c_n \, d\eta$.
→ in Minkowski space time

What about II & III. ?
~~[illegible]~~
Ma'am told that we do this for particular initial condition & evolve this ?

Why do coef. have to become operator & not the basis ?

What goes wrong in straight away finding the freq ? .

Conformally connected ⇒ preserve angles ? . Prove it

Physical interpretation of everything ?

Detour: QFT on Curved Spacetime

①

Fourier transform:

$$f(x) = \int dp \left(a_p \sin(px) + b_p \cos(px) \right)$$

because we find that $\sin$ & $\cos$ form a basis to the space of functions.

In QFT also we do this. But we should also show that the results are indep of the choice of basis or, their is a natural choice of basis and all results are invariant under this natural choice.

② In QFT the results are not invariant under the choice of basis. But there is a natural choice of basis for a (inertial observer). For a non inertial observer ∃ no unique choice of Basis.

(moving on timelike killing vector field)

(Not unique on TKVF)

What basis do we choose for Unruh effect ①

How did we choose that ②

Even the non inertial obs. is moving on TKVF. ↓

Gravity is Geometric
Do NOT quantize Gravity

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(X) What is QG (8)

(2) What are the problems with QFT on curved spacetime (8)
→ (1) ambiguity def. for observers moving a TKVF.
(2) Heavily depends on choice of vacuum

(3) What happens when we vary gas also as the particles & antiparticles are produced (8)
→ (1) How to write Tμν for the particles of QFT.
(2) Does torsion play a role in this (8)
Could it play a imp role (8).
(3) Like in QFT all the ↑ order terms do not matter at low energies. Is this also true with GR (classical). (8) If not then the coupling constant that I discussed in my summer project should be such that all the ↑ order terms drop out at ↓ Energies

How about given GRW model, there is not Hawking radiation

In Hawking rad. Can all $e^{\ominus}$ coming out of black not be identical & thus solve the problem (Contain information) (8)

If the BH all the particles of the same then how can the fermions be at the same state (8) do they became bosons.

Why are we so concerned about the N number op. acting on $|0\rangle$ giving us same values (8)(2)