

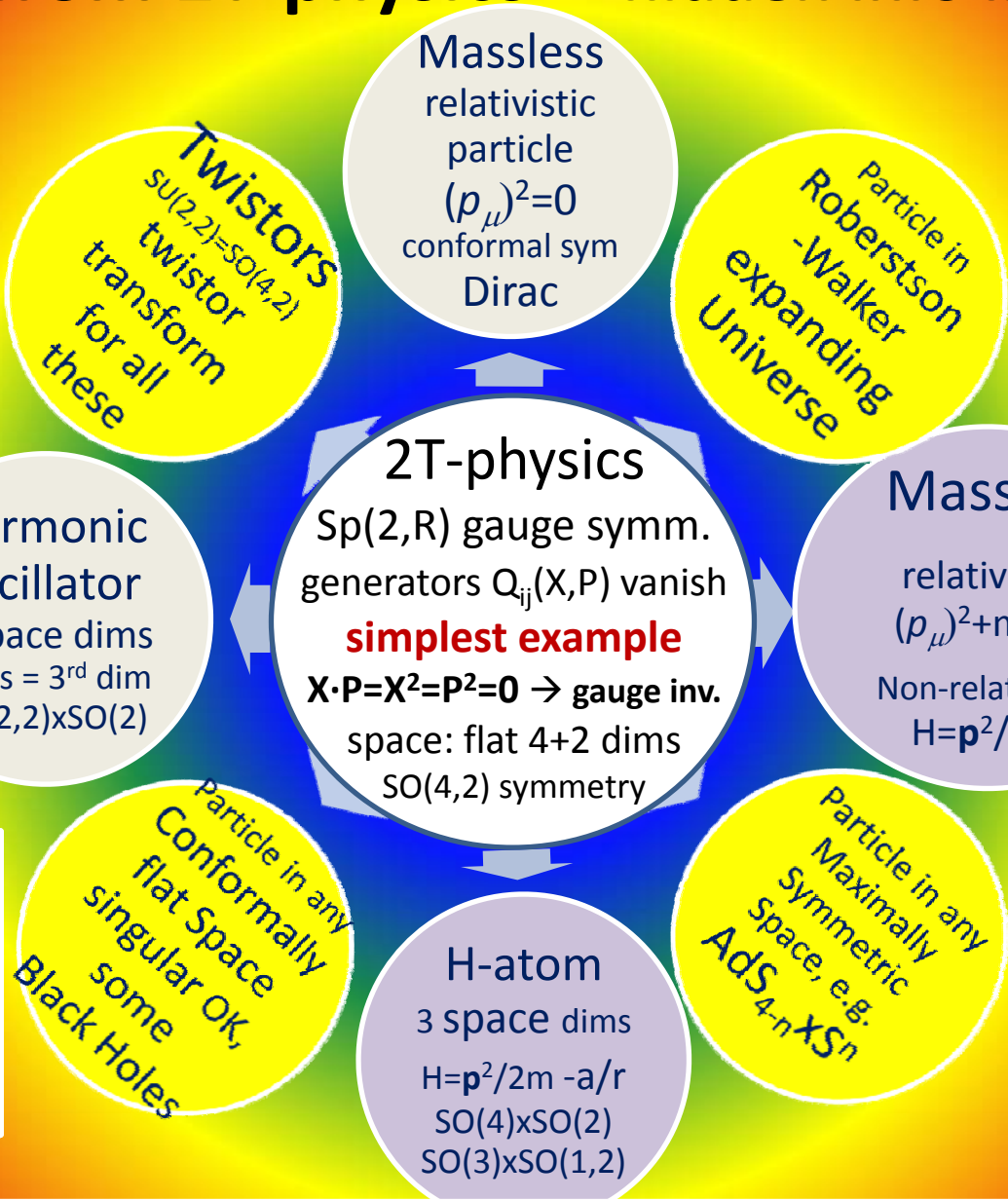
Shadows from 2T-physics → hidden info in 1T-physics

Hidden Symm.
 $SO(d,2)$, ($d=4$)
 $C_2=1-d^2/4 = -3$
 singleton

Emergent spacetimes and emergent parameters:
 mass, couplings, curvature, etc.

2T-physics predicts hidden symmetries and dualities (with parameters) among the shadows

Shadows emerge for ∞ choices of the $Q_{ij}(X,P)$ & in **2T-field theory**



Free or interacting systems with/without mass in flat/curved 3+1 spacetime
 Analogy: **object in room, many shadows on walls, observers stuck on walls**

Different Hamiltonians in 3+1 (on walls) created by perspectives of observers in phase space

Main points
 1) **no ghosts:** 2T-physics is compatible with 1T-physics
 2) **Systematic new info & insight** absent in 1T physics