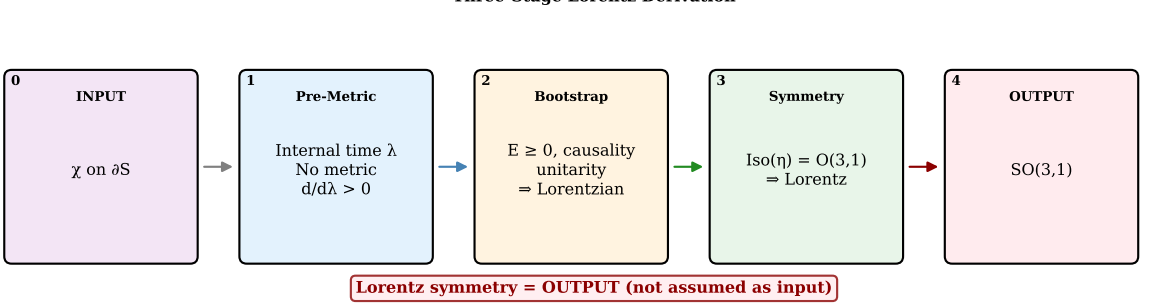
Three-Stage Lorentz Derivation
0
INPUT
χ on ∂S
1
Pre-Metric
Internal time λ
No metric
d/dλ > 0
2
Bootstrap
E ≥ 0, causality
unitarity
⇒ Lorentzian
3
Symmetry
Iso(η) = O(3,1)
⇒ Lorentz
4
OUTPUT
SO(3,1)
Lorentz symmetry = OUTPUT (not assumed as input)