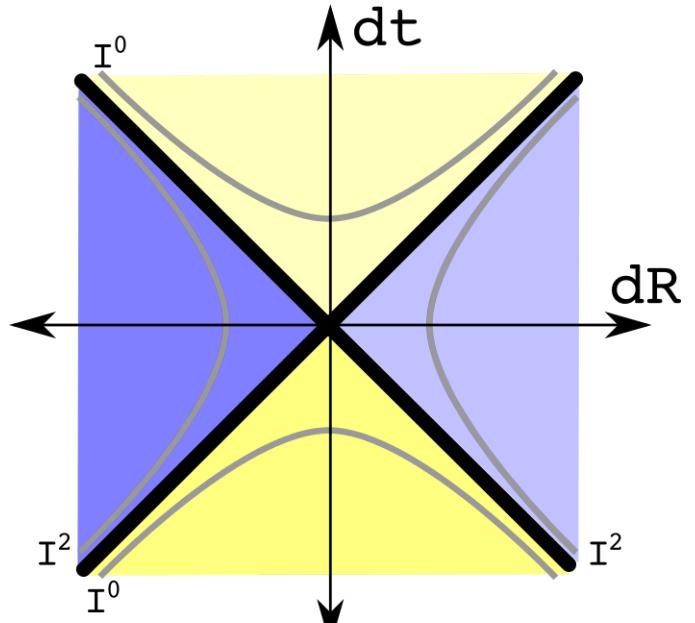
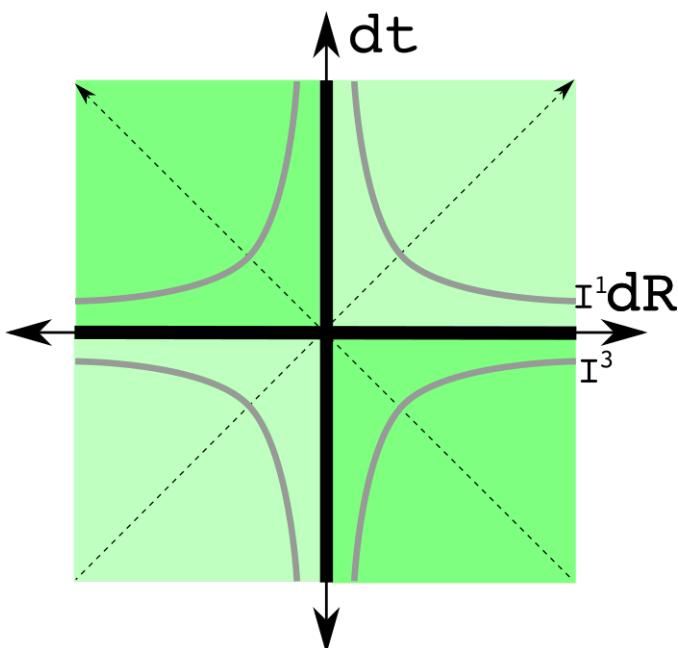


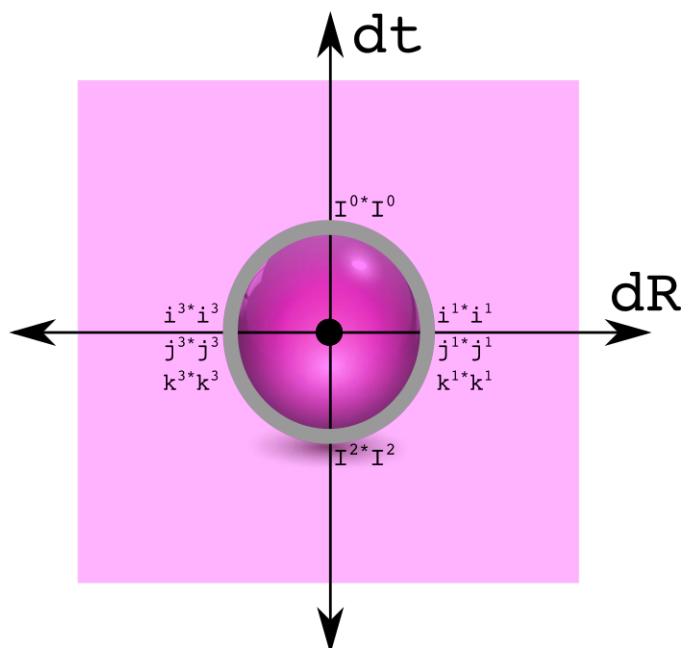
**Classical**



**Fast Physics**



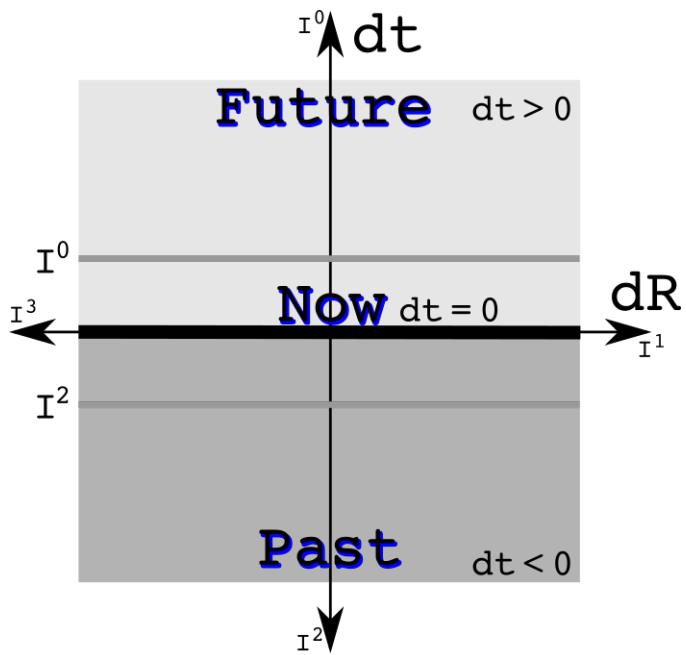
**Gravity**



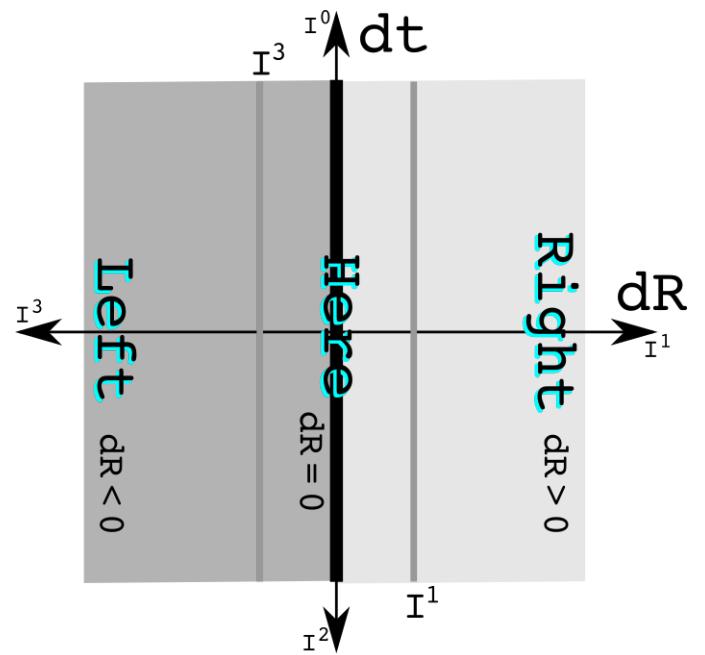
**Light +**

# **Space-time Geometries**

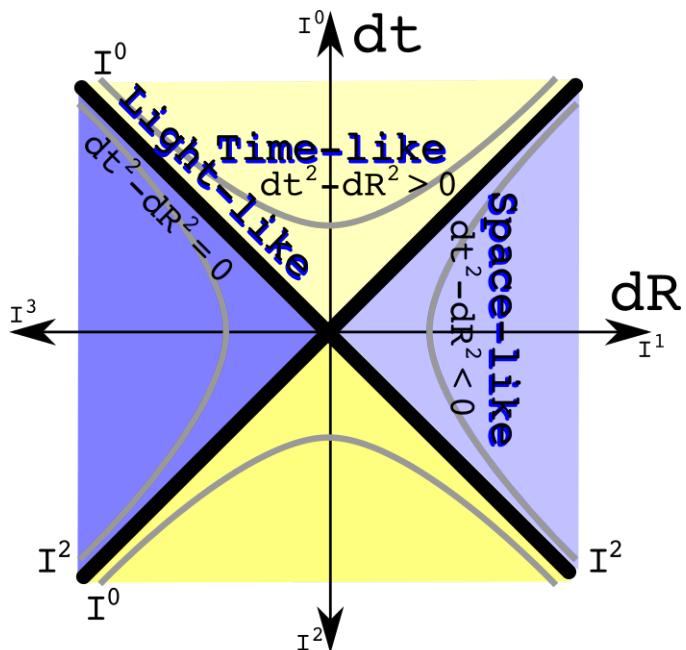
# Space-Time Equivalence Classes



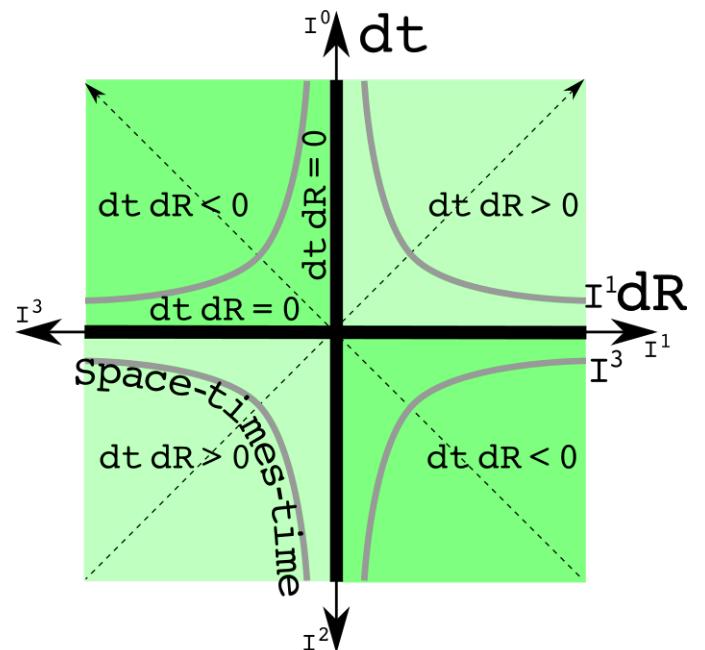
Time  
 $dt$



Space  
 $dR$

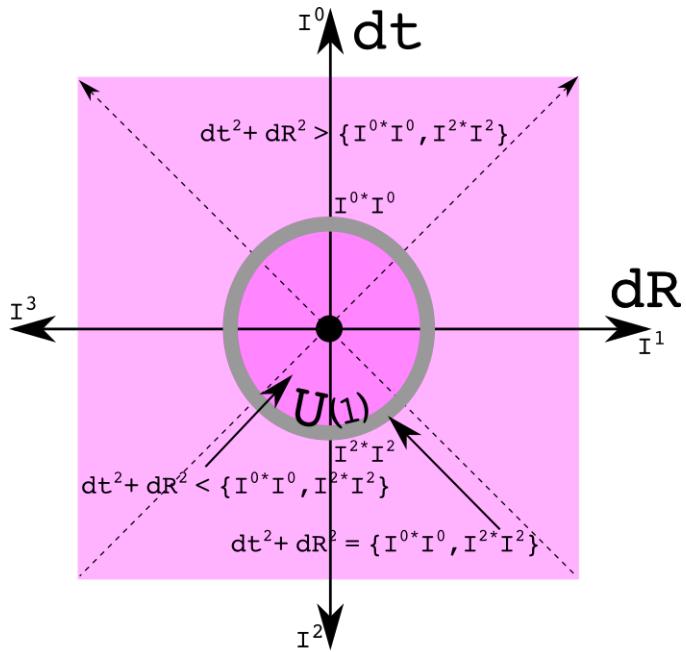


Causality  
 $dt^2 - dR^2$

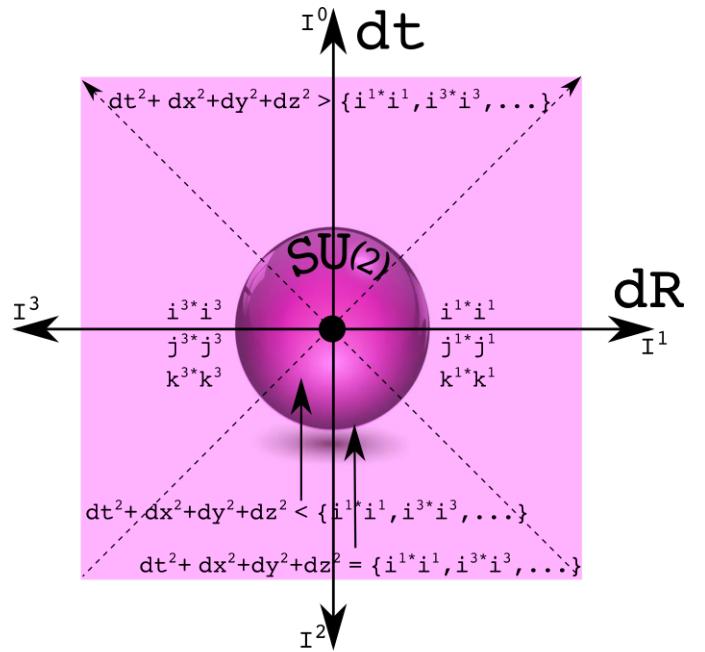


Gravity  
 $dt dR$

# Space-Time Equivalence Classes

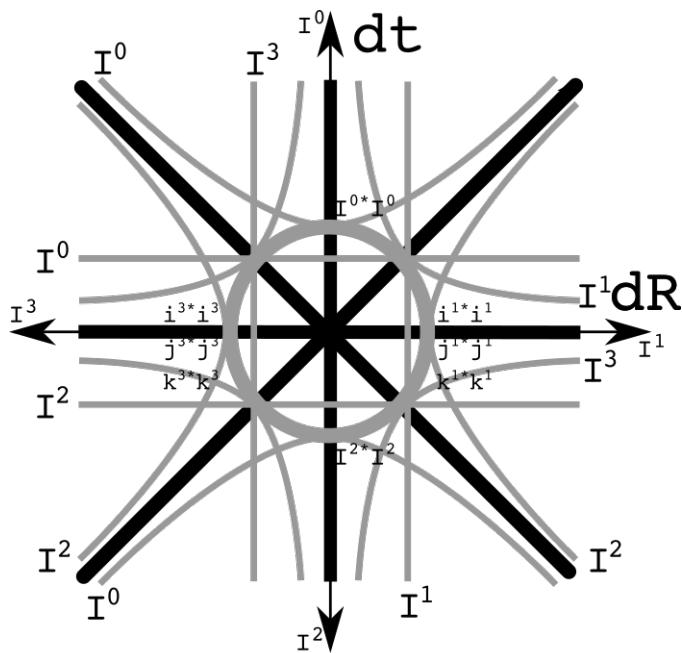


Light  $U(1)$   
 $dt^2 + dR^2$

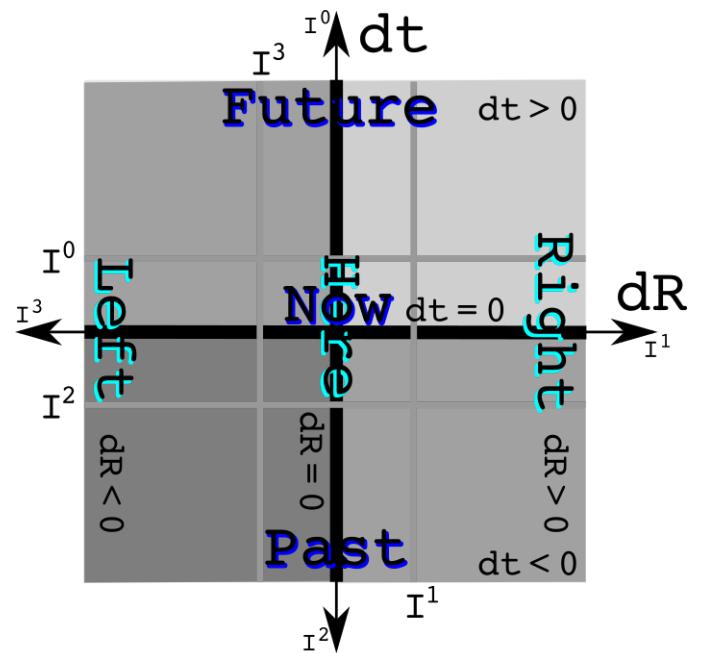


Weak Force  $SU(2)$   
 $dt^2 + dx^2 + dy^2 + dz^2$

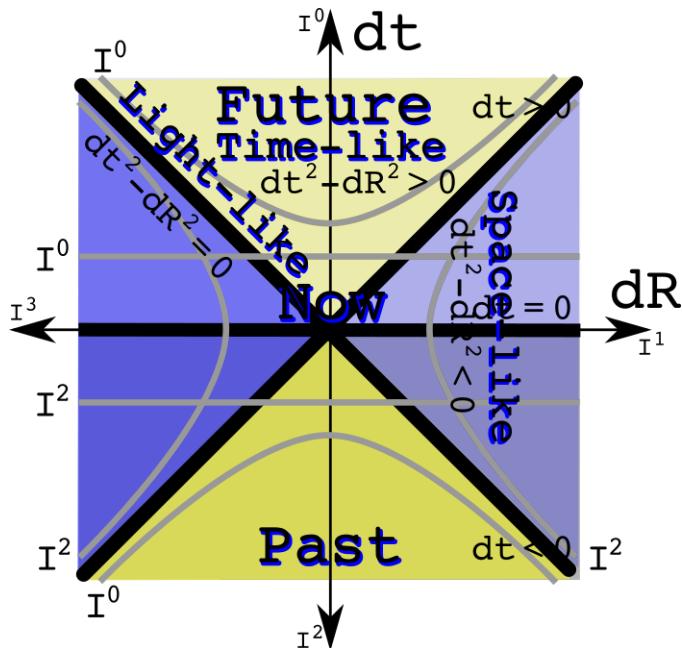
# Overlapping Equivalence Classes



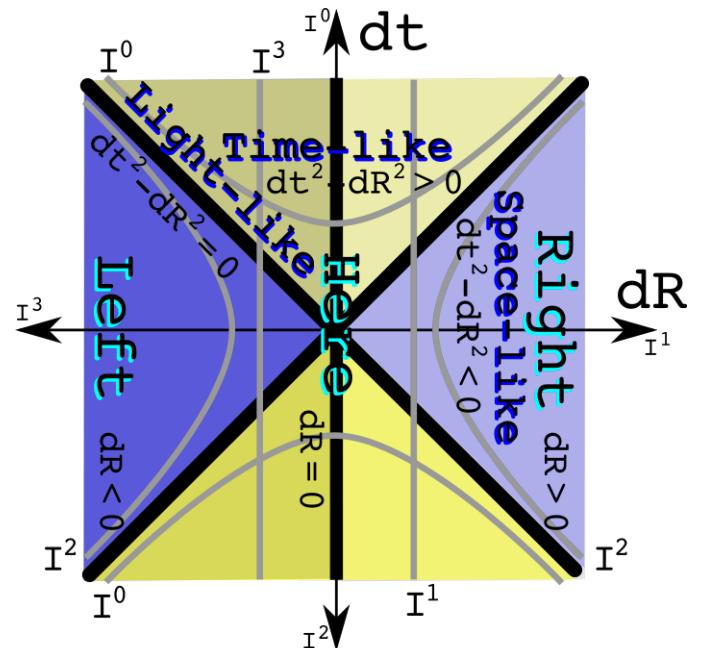
All  
0's and 1's



Space + Time  
dR + dt

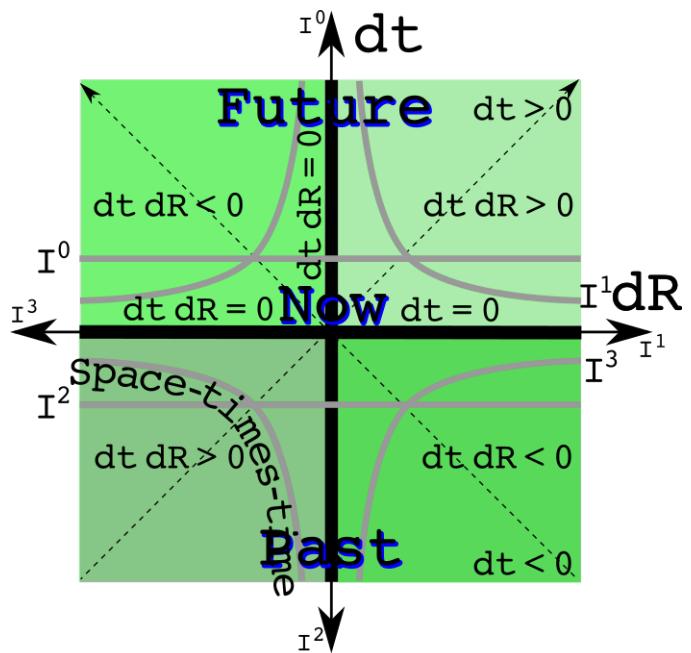


Two-tone  
Space-like

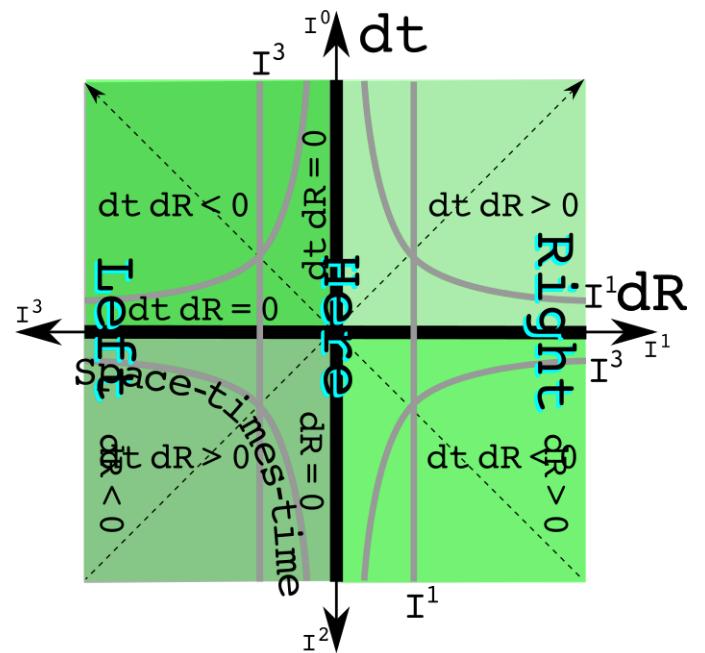


Two-tone  
Time-like

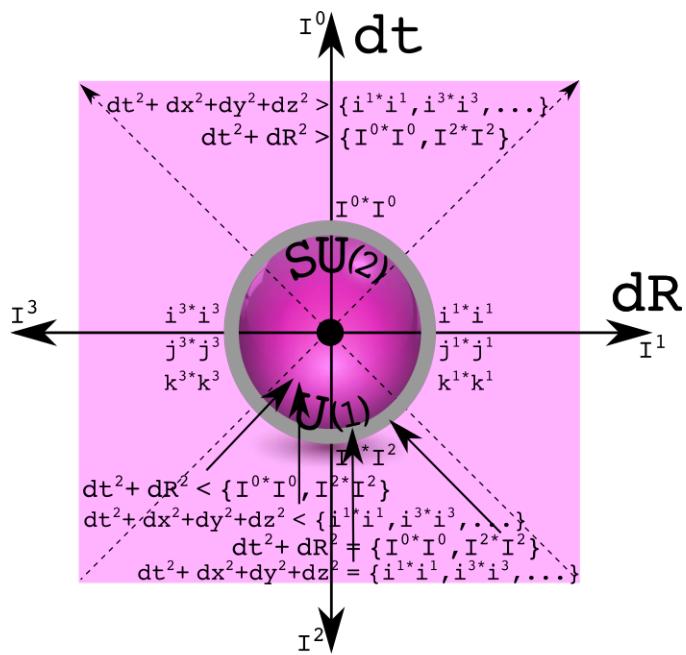
# Overlapping Equivalence Classes



Gravity  
monotone

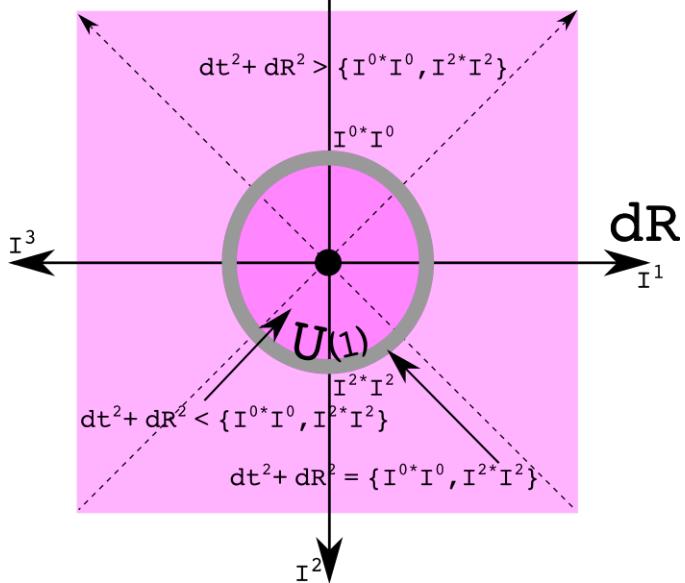
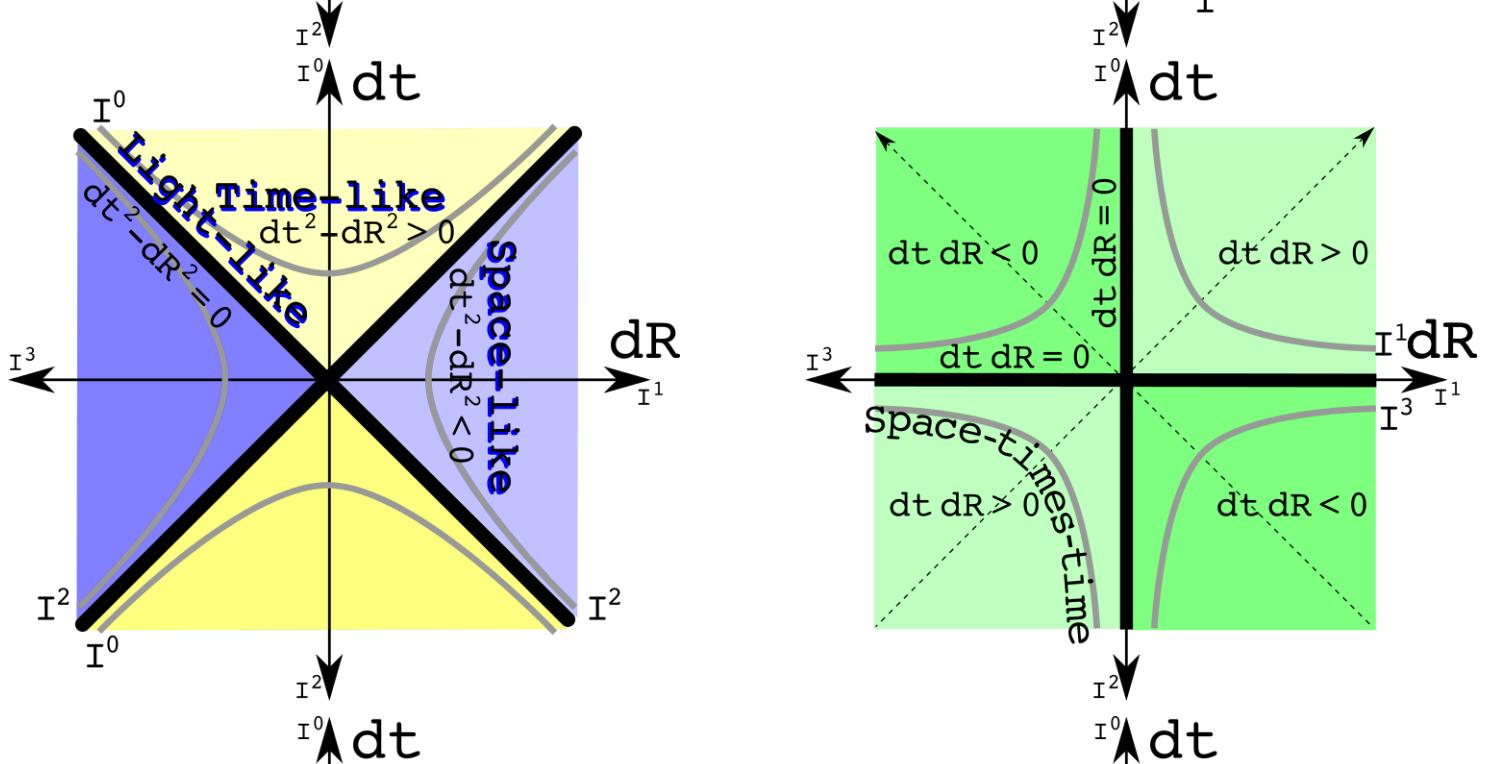
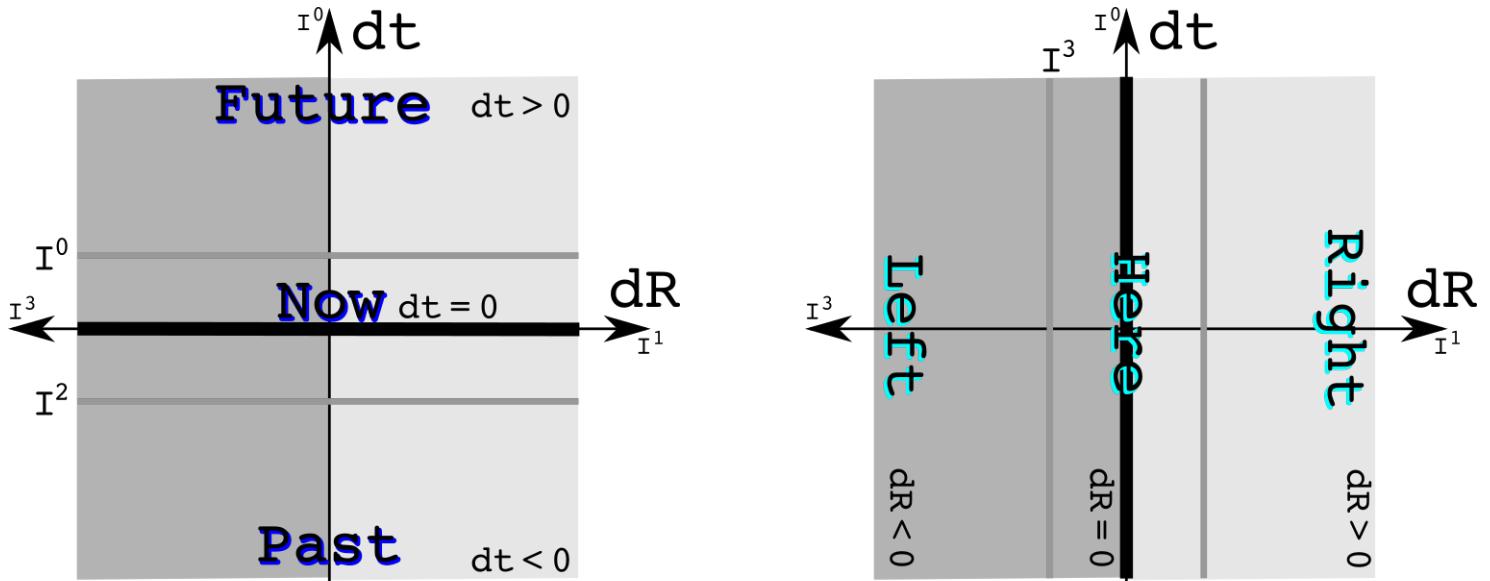
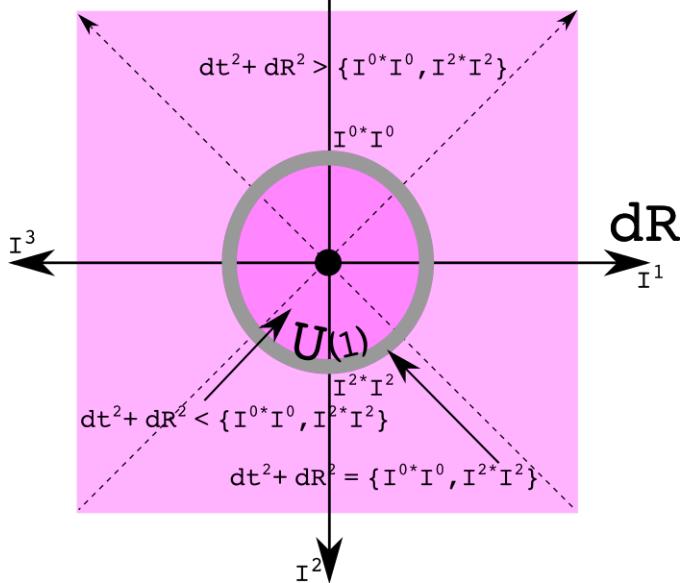
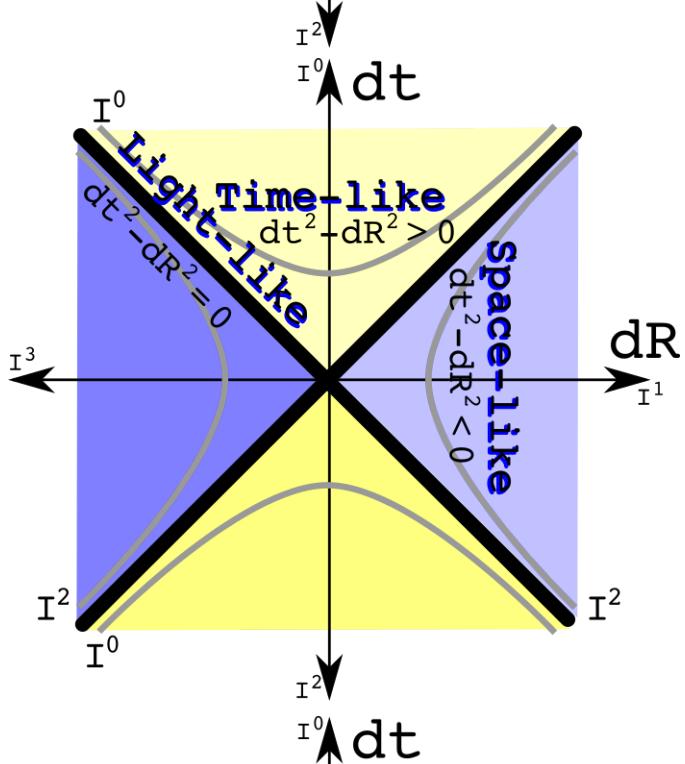
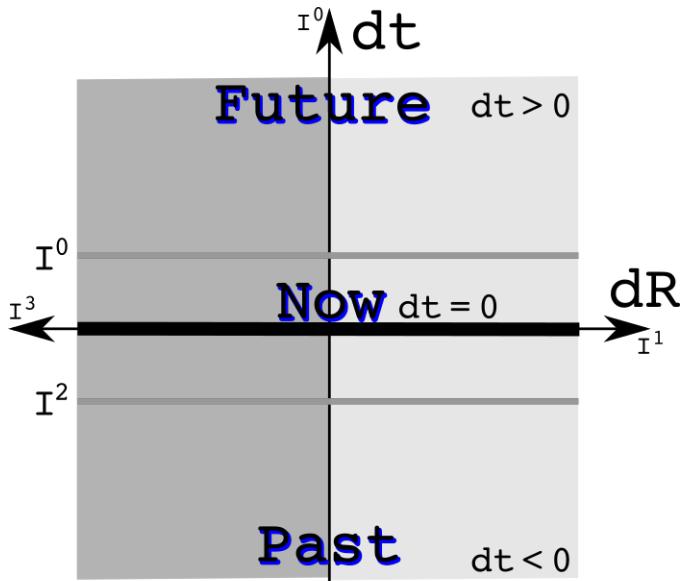


Gravity  
monotone



Electro-weak  
 $dt^2 + (dx^2 + dy^2 + dz^2)$

# Space-Time Equivalence Classes



# Overlapping Equivalence Classes

