
General Coordinate Invariance (GCI)

1. The TGD counterpart of ordinary general coordinate invariance (GCI) implying
 - (a) holography: to given 3-surface one can assign unique space-time surface apart from possible degeneracy analogous to gauge degeneracy possibly assignable to a subgroup of conformal symmetries acting at $\delta M_+^4 \times CP_2$ that is light-cone boundary.
 - (b) an identification of elementary particle as space-like 3-surface at boundary of causal diamond (CD).
 - (c) classical physics as space-time dynamics becomes an exact part of WCW geometry and quantum physics.
 - (d) the interpretation of space-time surfaces as analogs of Bohr orbits so that "Bohr orbitology" becomes an exact part of quantum theory meaning that the usual path integral picture about quantization of GRT does apply.
2. Strong form of GCI allowing both identifications of particle as 3-surface implying effective 2-dimensionality: particle corresponds to partonic 2-surface plus 4-D tangent space data at it equivalent with strong form of holography such that the orbit of partonic 2-surface is a light-like 3-surface at which the signature of the induced metric changes from Minkowskian to Euclidean so that the induced 4-metric is degenerate.