

Globally hyperbolic spacetimes with timelike boundary constitute a natural class of spacetimes, where regular boundary conditions can be posed on its set of naked singularities. Some geometric properties of these spacetimes will be explained, including its stability in the set of all the metrics on a manifold with boundary, and the following splitting result:

Such a spacetime \bar{M} with boundary ∂M becomes isometric to $\mathbb{R} \times \bar{\Sigma}$ (where $\bar{\Sigma}$ is a smooth spacelike Cauchy hypersurface with boundary) endowed with a metric such that the factors \mathbb{R} and $\bar{\Sigma}$ become orthogonal; in particular, ∂M intersects orthogonally a foliation of \bar{M} by Cauchy hypersurfaces.

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