

UFSCar

DEPARTAMENTO DE MATEMÁTICA

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Falará sobre:

Differential geometry of lightlike normals and canal hypersurfaces

Resumo. We consider the differential geometry of submanifolds with higher codimension by using the tools of lightlike normals and canal hypersurfaces. When we consider the submanifolds of codimension two in the Lorentz metric space of index one, we can choose two directions of lightlike normals of the spacelike submanifolds, and define related shape operators and curvatures. On the other hand, when we consider the spacelike submanifold with higher codimension, we can introduce an analogous notion of the canal surface to study the spacelike submanifolds. The canal surface is classically defined by a family of circles of regular curves and its geometrical property is studied. In general case, the parabolic set of the canal hypersurface is related to some geometrical properties of submanifolds. We discuss the singularity of some related maps and discuss its geometrical properties.

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