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Alfonso Romero* (aromero@ugr.es), Dep. Geometria y Topologia, Facultad de Ciencias, Universidad de Granada, 18071 Granada, Granada, Spain. *Uniqueness of complete maximal hypersurfaces in spatially parabolic Generalized Robertson-Walker spacetimes.*

A Generalized Robertson-Walker (GRW) spacetime such that the universal Riemannian covering of the fiber is parabolic (thus so is the fiber) is said to be spatially parabolic. Spatially parabolic GRW spacetimes extend to spatially closed GRW spacetimes from the point of view of the geometric-analysis of the fiber. On the contrary to spatially closed GRW spacetimes, these spacetimes could be compatible with certain cosmological principle, and they can be used for modelling open relativistic universes. A complete spacelike hypersurface in a spatially parabolic GRW spacetime inherits the parabolicity, whenever some boundedness assumptions on the restriction of the warping function to the spacelike hypersurface and on the hyperbolic angle between the unit normal vector field and a certain timelike vector field are assumed. Conversely, the existence of a simply connected parabolic spacelike hypersurface, under the previous assumptions, in a GRW spacetime also leads to its spatial parabolicity. All the complete maximal hypersurfaces in a spatially parabolic GRW spacetime are determined in several cases. As an application, all the entire solutions of the maximal hypersurface equation on a parabolic Riemannian manifolds are found, solving new Calabi-Bernstein problems. (Received January 19, 2015)