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PALESTRAS - PGMAT/UFPI

PALESTRA: WEAKLY TRAPPED SUBMANIFOLDS IN GRW SPACETIMES

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RESUMO: In this talk, we present an overview on trapped submanifolds. These concepts were presented initially by Penrose describing the horizon of events in a singularity such as a black hole for the trapped surfaces. We also present the concept of marginally and weakly trapped submanifold. The results we will present are of rigidity for weakly trapped submanifolds in $-R \times_f M$. We are going to show that these submanifolds are in fact hypersurfaces immersed in the Riemannian fiber M , and for some cases they are minimal ones. We consider some assumptions on the mean curvature such as boundedness and use the powerful Omori-Yau maximum principle as well stochastic completeness, in particular those results hold for parabolic hypersurfaces.