



APRESENTA:

# On the rigidity of spacelike submanifolds with Gaussian mean curvature vector

30/08/2024 às 10h00  
Auditório da UAMat

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## On the rigidity of spacelike submanifolds with Gaussian mean curvature vector

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**Abstract.** Under the hypothesis that the second fundamental form has finite  $C^1$  norm, we show that the  $n$ -dimensional spacelike hyperplanes of the  $(n+p)$ -dimensional pseudo-Euclidean space  $R_p^{n+p}$  of index  $p$  are the only complete spacelike submanifolds  $X : M^n \looparrowright R_p^{n+p}$  having polynomial  $f$ -volume growth, for  $f = |X|^2/4$ , and parallel Gaussian mean curvature vector  $\xi$ , with  $|\xi|^2 \leq 2p$ . When  $X : M^n \looparrowright R_p^{n+p}$  is complete noncompact, supposing that the norm of the second fundamental form converges to zero at infinity, we also conclude that it must be an  $n$ -dimensional spacelike hyperplane of  $R_p^{n+p}$ .

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