UNIVERSIDADE FEDERAL DO AMAZONAS
INSTITUTO DE CIÊNCIAS EXATAS
DEPARTAMENTO DE MATEMÁTICA

SEMINÁRIO DA PÓS-GRADUAÇÃO

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Título: "A FIRST EIGENVALUE ESTIMATE FOR MINIMAL HYPERSURFACES"

Resumo:

ABSTRACT. In this talk we shall attempt to present in full a paper by Choi and Wang bearing the exact same title as above [1]. The main result is the following theorem.

Theorem. (**Choi & Wang, 1983**) *Let M be a compact orientable embedded minimal hypersurface of a compact orientable Riemannian manifold N. Suppose the Ricci curvature of N is bounded below by a positive constant k. Then $\lambda_1(M) > \frac{k}{2}$, where $\lambda_1(M)$ is the first Neumann eigenvalue of the Lapiacian of M.*

This theorem has an immediate and striking Corollary.

Corollary. *Let M be a compact embedded minimal hypersurface of S^n, the standard sphere of sectional curvature 1. Then $\lambda_1(M) \geq \frac{(n-1)}{2}$.*

The importance of this latter lies in the fact that this is the best result known up to date in regard with the following conjecture of Yau [2].

Conjecture. (**Yau, 1982**) *The first eigenvalue of every closed minimal hypersurface M^n in the unit sphere S^{n+1} is just n.*

REFERENCES

[1] H. Choi, A. Wang, A first eigenvalue estimate for minimal hypersurfaces, J. Differential Geometry, vol. 18, (1983), 559-562.

[2] S.T. Yau, Seminar on differential geometry, problem section, Ann. Math. Studies **102**, Princeton Univ. Press, 1982

Data: 19 e 26 de março de 2018

Horário: 16:00h

Local: Auditório Professor José Henrique de Sá Mesquita