Instituto de Matemática e Estatística
Universidade Federal Fluminense

Seminário de Sistemas Dinâmicos da UFF

Destruction of Invariant Graphs by $C^{1,\beta}$ Perturbations.

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Hora: 14h.
Local: Sala 407, Bloco H, Campus do Gragoatá.

Resumo

We show that given any C^1 Riemannian structure $(T^2; g)$ in the torus, $\epsilon > 0$ and $\beta \in (0; 1/3)$, there exists a C^1 Riemannian metric g with no Lagrangian invariant graphs that is $\epsilon - C^{1,\beta}$ close to g. The main idea of the proof is inspired in the work of V. Bangert who introduced caps from smoothed cone type C^1 perturbations of metrics with non-positive curvature to get conjugate points. Our new contribution to the subject is to show that positive curvature cone type perturbations are "less singular" than non-positive curvature cone type perturbations. Positive curvature geometry allows us to get better estimates for the variation of the C^1 norm of the singular cone in a neighborhood of its vertex. This is a joint work with R. O. Ruggiero.