

Pure Mathematics Seminar

Sperner type lemmas and related topics

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In this talk we consider several generalizations of Sperner's lemma. The Sperner, Tucker and Ky Fan lemmas are combinatorial analogs of the Brouwer and Borsuk - Ulam theorems with many useful applications. These classic lemmas are concerning labelings of triangulated discs and spheres. We show that discs and spheres can be substituted by large classes of manifolds with or without boundary.

With any cover of a space T we associate certain homotopy classes of maps from T into n -spheres. These homotopy invariants can be considered as obstructions for extensions of covers of a subspace A to a space X . We use these obstructions for generalizations of the classic KKM and Sperner lemmas. We also going to discuss some applications of these results to Game Theory.

Date: Friday, September 18, 2015

Time: 11:00 am

Place: Edinburg: MAGC 1.302, Brownsville: UBLB 3.102

The talk will delivered live at the Edinburg campus and will be streamed to the Brownsville campus

Coffee and cookies will be served.

For further information or for special accommodations, please contact Dr. Sergey Grigorian via email at [sergey.grigorian@utrgv.edu], or Dr. Alexey Garber at [alexey.garber@utrgv.edu], or visit the webpage [<http://blue.utb.edu/dg2012/puremathseminar.html>].