Instituto Universitario de Investigación de Matemáticas y Aplicaciones Universidad Zaragoza

Departamento de Matemáticas Universidad Zaragoza

Seminario Geometría y Topología

Conferencia

por

Göran Bergqvist
Universidad de Linköping

título

"Curves that bound the spectrum of a matrix"

Abstract:
The real part of any eigenvalue of a matrix A is less or equal to the largest eigenvalue of its Hermitian part H(A). Applied to exp(-iv)A for all v, the spectrum of A is also contained in an infinite intersection of v-rotated half-planes, an intersection that equals the numerical range F(A). Adam, Psarrakos and Tsatsomeros have shown that using the two largest eigenvalues of H(A), a cubic curve that restricts the location of eigenvalues can be constructed and, using the idea of rotations, the envelope of such cubic curves defines a region inside F(A) that still contains the spectrum. We present a generalization of their results and show how new restricting curves for the spectrum can be found if one utilizes more than two eigenvalues of H(A), and how the envelope of such curves bounds a new smaller region for the spectrum.

Fecha: Jueves, 20 de octubre de 2016
Hora: 10:00 horas
Lugar: Edificio de Matemáticas, Aula 14