UNIVERSITY OF PUERTO RICO, RIO PIEDRAS CAMPUS
FACULTY OF NATURAL SCIENCES, DEPARTMENT OF MATHEMATICS

COLLOQUIUM
A new joint spectrum for operator tuples

D

DR. RONGWEI YAN
STATE UNIVERSITY OF NEW YORK AT ALBANY

Abstract: For a tuple A=(A_1, A_2, ..., A_n) of elements in a unital algebra B over the complex field, its projective spectrum P(A) is the collection of z such that the linear sum A(z)=z_1A_1+z_2A_2+...+z_nA_n is not invertible. In finite dimensional case, projective spectrum is a projective hypersurface. When A is commuting, P(A) looks like a bundle over the Taylor spectrum of A. In the case B is a C^*-algebra, the resolvent set P^c(A):=C^n\P(A) is made of domains of holomorphy. B-valued 1-form A^{-1}(z)dA(z) reveals the topology of P^c(A), and there exists a Chern-Weil type homomorphism from invariant multilinear functionals to the de Rham cohomology H^*(P^c(A),C).

Monday, March 29, 2010

10:00-11:00am

A-209