

המחלקה למתמטיקה, בן-גוריון

קולוקוויום

ביום שלישי, 20 במאי, 2025

בשעה 14:30 – 15:30

ב-101 Math

ההרצאה

polynomials noncommutative of Phenomenology

חינתן על-ידי

(BGU) Shamovich Eli

תקציר: Given d commuting operators, or matrices of d -tuple, we immediately extend to d variables. An extension of the polynomial ring from a homomorphism to a get hand, other the On calculus. "functional a called is homomorphism a such of fruitful a is space character its on functions as algebra commutative a viewing polynomials and matrices However, Gefland. to least at back goes that approach free the is case this in study of object natural the Hence, commute. to not tend will we analogy, first the By $\langle z_d, z_1, \dots \rangle$, $\mathbb{C}\langle z_d, z_1, \dots \rangle$ algebra second The polynomials. noncommutative algebra free the of elements the call space affine the of analog natural The functions. as them treat to us tells analogy understand to want We sizes. all of matrices of d -tuples all of collection the is values. their through polynomials noncommutative between relations algebraic can what $\langle z_d, z_1, \dots \rangle$, $\mathbb{C}\langle z_d, z_1, \dots \rangle \in \{f, g\}$ given example, For (X_1, \dots, X_d) , $X_i = X_j$ matrices of d -tuples every for f, g , and f, g about say we

to similar always is $f(X)$ fi What $g(X)$. as spectrum same the has $f(X)$
others. and questions these answer will We $g(X)$?