

الخطة البحثية التنفيذية الخماسية لقسم الرياضيات 2023/2018

الهيكل العام للخطة البحثية الخمسية المجمعية لقسم الرياضيات 2023/2018

المؤشرات	العناصر	الأنشطة	الكود
1-1 Pure Mathematics	1-1-1 Complex Analysis	Solve problems on analytic functions defined in the geometric function theory	1-1-1-1
		Geometric properties of some analytic functions defined by different operators	1-1-1-2
		A study on properties for some subclasses of analytic functions	1-1-1-3
		Subordination properties for the Erdelyi-Kober type integral	1-1-1-4
		An application of a Poisson distribution series on subclasses of univalent functions	1-1-1-5
		Inclusion relation for certain subclasses of uniformly p-valent analytic functions involving the linear operator	1-1-1-6
	1-1-2 Topology and its applications & rough sets Theory	Fuzzyfication of topological concepts	1-1-2-1
		Topological precision Rough set	1-1-2-2
		Studying of topological concepts for continuous mapping	1-1-2-3
		Generalized topological spaces	1-1-2-4
		Topological approach for rough set theory	1-1-2-5
	1-1-3 Differential equations	Stability analysis of ordinary differential equations	1-1-3-1
		Oscillation of functional differential equations	1-1-3-2
		Global attractivity and stability of functional differential equations	1-1-3-3
		Properties of solution of equations with distributed delays	1-1-3-4
		Fractional-order differential equations and their applications	1-1-3-5
		Fractional order equations and dynamical Systems	1-1-3-6
		The fractional-order epidemic models	1-1-3-7
		Dynamic analysis of fractional-order biological and economic systems	1-1-3-8
		Dynamical analysis of fractional order biological and economic models on complex networks	1-1-3-9
		Epidemics and Systemic Risk	1-1-3-10
	1-1-4 Operations Research	On advanced approaches for solving multi-objective decision making	1-1-4-1

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		Analytic methods for optimizing waiting time and queue length	1-1-4-2
		Performance evaluation and optimization for some queuing models	1-1-4-3
		Mean and variance of waiting time and their optimization	1-1-4-4
		On The Solution of Discrete Vector Optimization Problems	1-1-4-5
		Shortest Path Problems	1-1-4-6
		Parallel Computations	1-1-4-7
	1-1-5 Numerical Analysis	Numerical solution of ordinary differential equations	1-1-5-1
		Numerical solution of partial differential equations	1-1-5-2
		Galerkin methods for linear and nonlinear partial differential equations	1-1-5-3
		Numerical solution of nonlinear fractional differential equations	1-1-5-4
	1-1-6 Functional Analysis	Spectral analysis of some matrices as operators on sequence spaces	1-1-6-1
		Sequence spaces derived by the domain of certain matrices	1-1-6-2
		Basis properties of specific system in certain Banach spaces	1-1-6-3
		Sequence spaces and their matrix transformations.	1-1-6-4
		Application of the summability theory to the solvability of certain sequence spaces equations with matrix operators.	1-1-6-5
		Function Space	1-1-6-6
	1-1-7 Algebra	Classification of irreducible representations of non-associative triple systems.	1-1-7-1
		Enveloping algebras of n-Lie algebras.	1-1-7-2
		Classification of n-ary non- associative operations.	1-1-7-3
		Constructing new alternating algebra structures and discovering natural n-ary generalizations of Lie algebras.	1-1-7-4
		Almost distributive lattices	1-1-7-5
		Variety on some type of algebras	1-1-7-6
	1-1-8 Partial Differential Equations	Partial differential equations and their applications	1-1-8-1

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		Approximate solutions of nonlinear partial differential equations	1-1-8-3
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		Grassmannian variables and their applications	1-1-9-2
	1-1-10 Difference Equations	Analytic solutions of difference Equations	1-1-10-1
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	1-2-1 Plasma	Stability of dust ion acoustic waves in different dusty plasma systems with different particles distributions.	1-2-1-1
		Modulation of ion acoustic waves and studying the generation of different waves (Soliton, Stock, Rouge,...)	1-2-1-2
Arbitrary amplitude dust acoustic solitary waves in a dusty plasma with a streaming ion beam.		1-2-1-3	
Study of different effects for different plasma systems e.g. change fluctuating quantum effect, using different approximation techniques.		1-2-1-4	
1-2-2 Theory of Elasticity	Study the elastic bodies and the effect of some external influences on them such as heat, electric field, magnetic field.	1-2-2-1	
	Study the interference in the theory of thermo-elasticity	1-2-2-2	
	Viscous elastic response to composite layers with nonhomogeneous layers	1-2-2-3	
1-2-3 Theoretical Mechanics	Study controlling dynamical systems vibrations under the influence external forces	1-2-3-1	
	On The Orbital Stability Of Pendulum-Like Vibration Of A Rigid Body Carrying A Rotor	1-2-3-2	
1-2-4 Fluid Dynamics	Peristaltic transportation of fluid with variable viscosity in presence of external forces.	1-2-4-1	
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		Peristaltic transportation of non-Newtonian fluid in presence of an endoscope.	1-2-4-4
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		Quantum Algorithms and Applications	1-2-6-3
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		Correlated Markov chains ruin problem	1-3-1-6
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		Tridiagonal matrices and MC-RW	1-3-1-10
		Tridiagonal matrices and difference equations	1-3-1-11
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		Numerical study of two queues in parallel and in series (Networks)	1-3-2-3

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قائم بعمل رئيس قسم الرياضيات

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