Major Catalog in School of Mathematical Sciences

Major	Research Field	Mode	Teaching Language
基础数学(Pure Mathematics)(070101)	01. 置换群及代数组合论(Symmetric Group and Algebraic Combinatorics)	Full-time	English
	02. 低维拓扑(Low-Dimensional Topology)	Full-time	English
	03. 微分几何与PDE(Differential Geometry and PDE)	Full-time	English
	04. 代数几何(Algebraic Geometry)	Full-time	English
	05. 数论： 算术几何，p-进上同调(Number theory: Arithmetic Geometry and P-adic Cohomology)	Full-time	English
	06. 代数表示论(Algebraic Representation theory)	Full-time	English
	07. 算术代数几何和朗兰兹纲领(Arithmetic Algebraic Geometry and Langlands Program)	Full-time	English
	08. 微分几何与数学物理(Differential Geometry and Mathematical Physics)	Full-time	English
	09. 组合数学；图论(Combinatorial Mathematics；Graph Theory)	Full-time	English
	10. 几何群论(Geometric Group theory)	Full-time	English
	11. 场论和弦理论相关的数学物理(Mathematics Physics related to Field theory and String theory)	Full-time	English
	12. 非线性偏微分方程和调和分析(Nonlinear Partial Differential Equations and Harmonic Analysis)	Full-time	English
	13. 双曲型偏微分方程(Hyperbolic Partial Differential Equations)	Full-time	English
	14. 拓扑弦与镜像对称(Topological Strings and Mirror Symmetry)	Full-time	English
	15. 数论与表示论(Number theory and Representation theory)	Full-time	English
	16. 量子拓扑计算和数学物理(Topological Quantum Computation and Mathematic Physics)	Full-time	English
	17. 几何分析和复几何(Geometric analysis and Complex geometry)	Full-time	English
	18. 表示论与自守形式(Representation theory and Automorphic forms)	Full-time	English
	19. 与算术几何相关的代数拓扑问题(Algebraic Topology problem related to Arithmetic Geometry)	Full-time	English
	20. 规范理论与低维拓扑(Gauge Theory and Low-dimensional Topology)	Full-time	English
	21. 算术几何与丢番图方程(Arithmetic geometry and Diophantine Equation)	Full-time	English
	22. 分析与偏微分方程(Analysis and Partial Differential Equations)	Full-time	English
	23. 偏微分方程与应用分析(Partial Differential Equations and Applied Analysis)	Full-time	English
	24. 算术动力系统(Arithmetic Dynamics)	Full-time	English
	25. 偏微分方程及其控制(PDEs Control Theory)	Full-time	English
	26. 薛定谔算子谱理论(Spectral Theory of Schrodinger Operators)	Full-time	English
	27. 代数拓扑(Algebraic Topology)	Full-time	English
	28. 双有理几何(Birational Geometry)	Full-time	English

基础数学(Pure Mathematics) (070101)	29. 非交换几何、算子代数、K-理论、指标理论(Noncommutative Geometry, Operator Algebras, K-theory, Index Theory)	Full-time	English
	30. 数理逻辑(Mathematical Logic)	Full-time	English
	31. 数学物理(Mathematical Physics)	Full-time	English
	32. 辛几何与切触几何(Symplectic Geometry and Contact Geometry)	Full-time	English
	33. Floer 同调理论(Floer Homology Theory)	Full-time	English
计算数学(Computational Mathematics) (070102)	01. 科学计算与大数据分析(Scientific computing and Big Data Analysis)	Full-time	English
	02. 最优化计算方法及其应用(Computational Methods For Optimization and its application)	Full-time	English
	03. 科学计算、计算材料、计算生物(Scientific Computing，Computational Materials Science，Computational Biology)	Full-time	English
	04. 图像与数据科学(Image and Data science)	Full-time	English
	05. 机器学习(Machine Learning)	Full-time	English
	06. 科学计算(Scientific Computing)	Full-time	English
	07. 科学计算、随机方法和应用分析(Scientific Computing, Stochastic methods and Applied analysis)	Full-time	English
	08. 量子计算、量子算法(Quantum Computing and Quantum Algorithms)	Full-time	English
	09. 并行计算、物理AI(Parallel Computing、Physical AI)	Full-time	English
概率论与数理统计(Probability and Statistics) (070103)	01. 生物大数据的统计机器学习(Statistical Learning of Biological Big Data)	Full-time	English
	02. 非平衡态统计物理的随机数学模型和理论(Stochastic Theory of Nonequilibrium Statistical Mechanics)	Full-time	English
	03. 随机空间过程与随机几何(Spatial Stochastic Process and Random Geometry)	Full-time	English
	04. 离散概率，统计物理(Discrete Probability, Statistical Physics)	Full-time	English
	05. 随机几何和统计物理(Random Geometry and Statistical Physics)	Full-time	English
应用数学(Applied Mathematics) (070104)	01. 机器学习(Machine Learning)	Full-time	English
统计学(Statistics) (071400)	01. 因果推断，医疗大数据建模分析，诊断医学统计方法， 流行病传播数学建模(Causal Inference, Statistical Methods in Diagnostic Medicine, Modeling Big Medical Data, Mathematical modelling of epidemic transmission)	Full-time	English
	02. 数理统计、环境统计、数据科学方法(Mathematical Statistics, Statistics for Geophysical Scienecs and Data Science Methods)	Full-time	English
	03. 生物统计与生物信息(Biostatistics and Bioinformatics)	Full-time	English
	04. 数据融合，复杂数据分析，生物统计，生物医学信息学(Data fusion，Complex data analysis，Biostatistics，Biomedical informatics)	Full-time	English