Professor MA, CHAO

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Academic Qualification:

2002-2005 Ph.D/Applied Mathematics/Wuhan University

Teaching Area

Calculus Linear Algebra Advanced Mathematics Medical Statistics

Research Area

Fractal Geometry and its Applications

Working Experience

2022.7- Professor/Faculty of Innovation Engineering /Macau University of Science and
2013.7- Program Co-ordinator of Maths Team/DGE-FIE/Macau University of Science and
2015.7- 2022.6 Associate Professor/Faculty of Information Technology/Macau University of Science and Technology
2007.9-2015.6 Assistant Professor/DGE/Macau University of Science and Technology
2005.9-2007.8 Postdoctoral Fellow/ Nanjing University

Academic Publication（selected）

Y. Han, S.Xu and **C.Ma***, Generalized Kannan-type contraction and xed point theorems, Appl. Math. J. Chinese Univ.2023, 38(2): 235-247.

C.Ma,S.Pei,and et al, Disparity estimation based on fusion of vision and LiDAR, International Journal of Wavelets, Multiresolution and Information Processing, 2022,Vol. 20, No. 05,

Q.Xiao, **C.Ma** and S.Wang, On the Eventually Periodic Continued β-Fractions and Their Lévy Constants, Mathematics, Basel Vol. 10, Iss. 1, (2022): 127.

C.Ma, L.Shen, and et al, Synaptic clef segmentation method based on fractal dimension for ATUM-SEM image of mouse cortex, International Journal of Wavelets, Multiresolution and Information Processing, 2022, Vol. 20, No.01, 2150038.

L.Huang, **C.Ma***, A dimensional result on the product of consecutive partial quotients in continued fractions, Journal of the Australian Mathematical Society, Oct 2021, 113(3), 357-385.

M. Zhang, **C.Ma***, On the exceptional sets concerning the leading partial quotient in continued fractions, JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, AUG.2021,500(1), p.125110.

Y.Han, **C.Ma***, Uniform Diophantine approximation to Cantor series expansion. FRACTALS-COMPLEX GEOMETRY PATTERNS AND SCALING IN NATURE AND SOCIETY, 2021, Vol.

F.Jing **C.Ma** and S.Wang, Metric theorems for continued β-fractions, Monatsh Math (2019). 190, pages 281–299.

C.Ma, B.Wang and J.Wu, Diophantine Approximation of the Orbits in Topological Dynamical Systems, Discrete and Continuous Dynamical Systems,May 2019, 39(5): 2455-2471.

C.Ma*, S.Zhang, Jarnik's Theorem Without the Monotonicity on the Approximating Function, FRACTALSCOMPLEX
GEOMETRY PATTERNS AND SCALING IN NATURE AND SOCIETY, Jun 2019,27(4).
H.Deng, **C.Ma*** and et al, Semi-supervised learning using autodidactic interpolation on sparse representation based multiple one-dimensional embedding, International Journal of Wavelets, Multiresolution and Information Processing, 2019, 17(3), 1950014.
H.Deng, **C.Ma*** and et al, A Method for Identification of Multisynaptic Boutons in Electron Microscopy Image Stack of Mouse Cortex, Appl. Sci. Jul 2019, 9(13),
Y.Chen,**C.Ma*** and J.Wu, Moving Recurrent Properties for the Doubling Map on the Unit Interval,Discrete and Continuous Dynamical Systems,Vol.36,no.6,June 2016,2969-2979.
C. Ma, S.Wang, Dynamical Diophantine approximation of beta expansions of formal Laurent series, Finite Fields and Their Applications, Volume 34, July 2015, Pages 176–191.
S.Xu, **C.Ma*** and Z.Zhou, A New Fixed Point Theorem of Quasi-Contractions on Cone Metric Space, Acta Sci. Nat. Uni. Sunyatseni, Vol.54, no.4, 2015.
B. Li, **C. Ma***, Finite and Infinite Arithmetic Progressions Related to Beta-Expansion, Abstract and Applied Analysis, Vol.2014, Article ID 678769, 6 pages.
Q.Xie, **C.Ma*** and et al,, Image Fusion Based on the Delta^(-1)-TV0 Energy Function, Entropy, 2014, 16, 6099-6115.
C. Ma, Q.Xie and H.Han, The Error-Sum Function of β Expansion, Mathematics in Practice and Theory, Vol.41, no.7, 2011,235-238.
C. Ma*,Y.Su Inhomogeneous Diophantine approximation over the field of formal Laurent seriese, Finite Fields and Their Applications, Volume 14, Issue 2, April 2008, 361-378.

Research Grants（selected）

Fractal Dimension and Diophantine Approximation over the fields of formal series, FDCT, PI(MA CHAO),2012-2015.

Dimension Problems in Dynamical systems,FDCT, PI(MA CHAO),2015-2018.

Fractal dimensions of covering set and first return rate in dynamical systems, FDCT, PI(MA CHAO), 2018-2021.

The Multifractal Spectrum for Cantor Series Expansions FDCT, PI(MA CHAO), 2021-2024.